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ABSTRACT

This bulletin, number 42, provides an inventory of abstracts of ongoing or recently completed research studies relating to children. Bibliographic sources of the bulletin include ERIC documents, journal articles, books, reports, and conference papers. Citations are entered under the following categories: long-term research, growth and development, special groups of children, the child and the family, socioeconomic and cultural factors, educational factors and services, social services, and health services. Only research reported between September 1978 and February 1979 is included in this issue of the Bulletin. (Author/RH)

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Research Relating to Children

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Bulletin 42

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September 1978 – February 1979

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NOTES: ***Research Relating to Children*** is prepared under the direction of Lilian G. Katz, Ph.D., Director, ERIC Clearinghouse on Early Childhood Education. Investigators who wish to submit abstracts of their research projects should address correspondence to:

Research Relating to Children
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ERIC CLEARINGHOUSE ON EARLY CHILDHOOD EDUCATION

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Director

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PREFACE

Research Relating to Children, Bulletin 42 includes reports of research in progress or recently completed research. With the exception of the section on Long-Term Research, it does not repeat studies included in ***Bulletins 1*** through ***41***, even though they are still in progress. This issue, therefore, does not reflect all research relating to children, but only research reported to us between September 1978 and February 1979.

Publication references and plans are cited in the abstracts of research in the bulletin. The ERIC Clearinghouse on Early Childhood Education, however, does not maintain information on the publications of the investigators. If you wish to obtain further details about any of the projects, please check professional journals in the appropriate field or write directly to the investigator. Investigators' phone numbers are included in this issue for your convenience.

Bulletin 42 will be the last ***Research Relating to Children*** bulletin published. We wish to thank investigators who have submitted reports of their research and those who have informed us of other studies. We wish to acknowledge the valuable assistance of the Social Research Group, George Washington University and the foundations that have provided us with information about their research grants.

Lilian G. Katz, Ph.D.
Director
ERIC Clearinghouse on Early Childhood Education

To Research Investigators:

This publication is only as complete as you are willing to make it. On page 181 you will find a form for reporting your current research. On page 185 you will find a form to let us know of other investigators who are working in the field. Please let us hear from you.

Research Relating to Children
806 West Pennsylvania Avenue
Urbana, Illinois 61801

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LONG-TERM RESEARCH

Note: The reports in this section concern research programs that are continuous.

42-AA-1 LONGITUDINAL STUDY OF CHILD GROWTH AND DEVELOPMENT

Investigator(s): Frank Falkner, M.D., F.R.C.P., Director; Alexander F. Roche, M.D., Ph.D., Chief, Section on Physical Growth and Genetics; and Robert McCall, Ph.D., Chief, Section on Perceptual/Cognitive Development, Fels Research Institute for the Study of Human Development, 800 Livermore Street, Yellow Springs, Ohio 45387. Phone: (513) 767-7324.
Purpose: To conduct a multidisciplinary study of children whose health, growth, psychological development, and environment have been studied since birth, with prenatal and genetic information; and to determine normative patterns of growth and development in human subjects.
Subjects: Over 800 subjects: from present infants to adults with their children in study. The subjects are healthy, from rural and urban areas, and from upper-lower to middle class backgrounds.
Methods: A multidisciplinary longitudinal study is being conducted with regular visits and use of appropriate analysis and computer methodology.
Duration: 1930-continuing.
Cooperating group(s): (1) Public Health Service, U.S. Department of Health, Education, and Welfare. (2) National Science Foundation. (3) Samuel S. Fels Fund. (4) U.S. Air Force.
Publications: Information is available from the investigators on approximately 1,022 publications that have been completed to date.

42-AA-2 DEVELOPMENT OF BUDGETS FOR CLOTHING AND HOUSEHOLD TEXTILES

Investigator(s): Virginia Britton, Ph.D., Home Economist, Consumer and Food Economics Institute, Agricultural Research Service, U.S. Department of Agriculture, Federal Center Building No. 1, Hyattsville, Maryland 20782. Phone: (202) 447-4433.
Purpose: To develop and update current household clothing budgets taking into account known physiological and sociopsychological needs, clothing habits, income, and other resources of various population groups, and the prices and availability of clothing items.
Subjects: 12,000 children in 6,000 families with husband and wife and one to five children, but with no other persons living in the home.
Methods: Data were gathered from the 1960-61 Survey of Consumer Expenditures by the Bureau of Labor Statistics and the U.S. Department of Agriculture. Budgets for children were computed using regression methods for three economic levels of the USDA food plans – economy, low cost, and moderate cost. Separate clothing budgets were computed for boys and girls categorized by age, region, and urbanization. Budgets will be published as total expenditures for children's clothing (updated to current price levels) and in garment equivalent units.
Findings: Budget costs for boys tended to equal comparable budgets for girls at the economy level. However, at higher budget levels, boys' costs were substantially less than girls' budgets. This was especially true for older children. Cost differences between clothing budget levels were substantially greater than between food plans, reflecting the greater elasticity of clothing expenditures. The majority of farm budgets and rural non-farm budgets was about equal to the comparable urban budgets.
Duration: 1962-continuing.
Publications: Britton, V. Clothing budgets for children from the USDA: Annual costs at three levels in four regions. ***Home Economics Research Journal,*** March 1973, 1(3), 173-184. (Reprints are available from: Sales Office, American Home Economics Association, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036. Price $1.00.)

42-AA-3 CHILD HEALTH AND DEVELOPMENT STUDIES

Investigator(s): Bea J. van den Berg, Ph.D., Research Pediatrician, School of Public Health, University of California, Berkeley, California 94720. Phone: (415) 655-7947.

Purpose: To investigate the relationships of biologic, genetic, and medical and environmental factors in the parents (including events in pregnancy, labor, and delivery) to the normal and abnormal development of the offspring; and to investigate the relationships of these factors to pregnancy loss in the form of early fetal death, perinatal mortality, infant and childhood mortality, and to incidence of congenital anomalies, to growth and morbidity patterns in infancy and childhood, and to cognitive attainment, behavioral development, and physical characteristics at ages 5 and 10 years.

Subjects: Members of the Kaiser Foundation Health Plan (a prepaid medical health plan) who reside in the San Francisco-East Bay Area.

Methods: The method of study is longitudinal for both mother and child. In addition to information obtained specifically for the studies, the medical records for the gravida and child provided information on illnesses, injuries, and drugs. A special interview and developmental examination were given the child on his 5th birthday and to a large sample of children when they were ages 9 to 11. These include vision, hearing, speech, and tests of cognitive ability. It is planned to extend the observations with a follow-up examination of a subcohort of about 2,000 mothers and their children when the latter are about 16 years old. An epidemiological research project is in process, aimed at the identification of precursory factors for high blood pressure in young persons.

Duration: July 1959-continuing.

Publications: Copies of a publication list and reprints are available from: Child Health and Development Studies, 3867 Howe Street, Oakland, California 94611.

42-AA-4 THE BERKELEY, CALIFORNIA GROWTH STUDY

Investigator(s): Dorothy H. Eichorn, Ph.D., Research Psychologist, Institute of Human Development, University of California, Berkeley, California 94720. Phone: (415) 642-6000.

Purpose: To study the mental and physical growth of normally healthy persons from birth to the present.

Subjects: 60 full-term, healthy newborns, born in Berkeley hospitals from 1928 to 1929 of white, English-speaking parents; and 140 offspring of these subjects, ages birth to 20, seen irregularly.

Methods: The same data, appropriate for age, were collected for the subjects and their offspring. Beginning in the first week of life, tests of mental and motor development, pediatric examinations, and interviews were conducted at frequent intervals during growth. At all visits, inquiries were made concerning current health and recent illnesses. Anthropometrics, body photographs, and skeletal X-rays were taken at most ages. Socioeconomic data were collected. Studies of the physical aspects of growth include analyses that compare health histories with physical growth and with skeletal maturation. Emotional and other personality variables are being studied for consistency, and in various interrelations with maternal behavior in infancy, birth histories, socioeconomic status, and intellectual and physical growth.

Duration: 1928-continuing.

Publications: (1) ***American Psychologist,*** 1968, 23(1), 1-17. (2) ***Monograph of the Society for Research in Child Development,*** 1963, 28. (3) Bayer, Leona and Bayley, Nancy, ***Growth diagnosis: Selected methods for interpreting and predicting physical development from one year to maturity.*** Chicago: University of Chicago Press, 1959.

42-AA-5 GROWTH AND PSYCHOPHYSIOLOGICAL PATTERNS IN INFANCY

Investigator(s): Wagner H. Bridger, M.D., Associate Professor of Psychiatry; and Beverly Birns, Ph.D., Assistant Professor of Psychology, Albert Einstein College of Medicine, Yeshiva University, Bronx, New York 10461. Phone: (212) 568-8400.
Purpose: To investigate the origins and course of development of individual differences in neonates.
Subjects: Normal, healthy, full-term babies, 2 to 5 days old, born at Bronx Municipal Hospital Center.
Methods: A neonatal behavioral profile, which was established in previous studies, will be used. The profile includes behavioral and heart rate ratings on excitation, soothing, feeding, sleep, and nonstimulus periods of observation. Neonates will be followed at ages 2 weeks, and 1, 2, 3, and 4 months to measure the stability of early appearing traits and their relation to later behaviors. Data will be analyzed with respect to stability of early appearing behaviors and the relationship between neonatal behavior and maternal and birth history.
Duration: 1966-continuing.
Cooperating group(s): National Institute of Mental Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Newton, Grant and Levine, Seymour (Eds.) ***Early experience and behavior: Psychobiology of development.*** Springfield, Illinois: Charles C. Thomas, 1968. (2) ***Psychosomatic Medicine,*** 1966, 28, 316.

42-AA-6 STUDIES OF INTELLECTUAL DEVELOPMENT AND ORGANIZATION

Investigator(s): Lloyd G. Humphreys, Ph.D., Professor of Education and Psychology, 425 Psychology Building, University of Illinois, Champaign, Illinois 61820. Phone: (217) 333-7277.
Purpose: To help understand the development and organization of human abilities.
Subjects: The sample includes male and female subjects from grade school to adult.
Methods: A variation on the basic model of the cross-lagged panel correlation methodology involving multiple correlations has been tried and appears to have promise. The basic methodology will also be investigated and the result obtained from its use will be compared to the factor structure of the various measures. Before this can be done, however, an appropriate methodology for the factor analysis of the growth data must be developed. Three possible approaches will be employed. A somewhat independent project involves a factor analysis of the school means obtained in Project TALENT. The purpose is to investigate how naturally occurring social selection operates primarily on the general factor in human abilities and that group factors will be poorly defined in the correlations based upon school means. The Graduate Record Examination will be used as criterion for predicting grade point average in undergraduate and graduate students as a follow-up to previous research on predictability of academic grades over 1 to 4 years.
Duration: 1971-continuing.
Cooperating group(s): (1) Spencer Foundation. (2) Educational Testing Service. (3) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (4) American Institutes for Research.
Publications: A list of publications is available from the investigator.

42-AA-7 NEW RADIOGRAPHIC STANDARDS OF REFERENCE FOR SKELETAL DEVELOPMENT OF CHILDREN AND STANDARDS IN PREPARATION

Investigator(s): S. Idell Pyle, Ph.D., Research Associate in Anatomy, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106. Phone: (216) 368-2000. William W. Greulich, Ph.D., Research Biologist, National Institute of Child Health and Human Development, Bethesda,

Maryland 20014; and staff of the National Center for Health Statistics involved in the National Health Survey, Public Health Service, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Purpose: To develop radiographic standards of reference for skeletal development of children to provide a basis for identifying maturity levels of growing bones in the hands, elbows, shoulders, hips, knees, and feet of children and youths according to the shapes of the bone shadows in an X-ray film.

Subjects: Approximately 1,000 healthy individuals in Cleveland and Boston.

Methods: The bone shadows in an X-ray film display a modal rate of growth of each bone by illustrating regularly occurring osseous features which develop in series in the surface of the bone cortex as it calcifies. A reference standard consists of films arranged as a series to show sequential osseous features which are alike in males and females. It is an instrument for measuring the skeletal maturity level of children. Films of the subjects, covering the full span of growth from birth to adulthood, have been used to prepare standards. A standard of reference for joints in the upper extremity is in preparation, with the section on the hand and wrist showing the application of cardinal maturity indicators of individual bones to handwrist bones which are anomalous in the number of their bone growth centers. For published standards, see publication references listed below.

Duration: 1948-continuing.

Cooperating group(s): Bolton-Brush Growth Study Center, Case Western Reserve University, Cleveland; Department of Maternal and Child Health, Harvard University School of Public Health, Boston; National Center for Health Statistics, Rockville, Maryland; Departments of Pediatrics and Endocrinology, Henry Ford Hospital, Detroit; Merrill-Palmer Institute, Detroit; Department of Education, Eastern Michigan University, Ypsilanti.

Publications: (1) Greulich, W.W. and Pyle, S.I. ***A radiographic atlas of skeletal development of the hand and wrist*** (2nd Ed.) Stanford, California: Stanford University Press, 1959. (2)Hoerr, N.L.; Pyle, S.I.; and Francis, C.C. ***A radiographic atlas of skeletal development of the foot and ankle*** (1st Ed.) Springfield, Illinois: Charles C Thomas, 1962. (3) Pyle, S.I. and Hoerr, N.L. ***A standard of reference for the growing knee*** (2nd Ed.) Springfield, Illinois: Charles C Thomas, 1969. (4) Pyle, S.I.; Waterhouse, A.M.; and Greulich, W.W. ***A standard of reference for the growing hand and wrist*** (1st Ed.) Cleveland, Ohio: The Press of Case Western Reserve University, 1971.

42-AA-8 METHODS IN CHARACTER DEVELOPMENT

Investigator(s): Ernest M. Ligon, Ph.D., Director; and staff, Union College Character Research Project, 10 Nott Terrace, Schenectady, New York 12308. Phone: (518) 372-4451.

Purpose: To develop more effective methods in character development in cooperation with families and character training agencies. ("Character" is defined in terms of three dimensions: philosophy of values, breadth of social vision, and strength of purpose.)

Subjects: Children and families throughout the United States. The families belong to churches, YMCAs, and schools but participate in the study as individual families.

Methods: Procedures of the research are based on action research, in which the participants cooperate with the laboratory and use methods of coscientist research. Open-ended reports on research goals constitute the basic body of research data. An analysis of these data serves as the basis for the development of new procedures and for the scientific reports that are published concerning it.

Findings: Reports have been prepared concerning hypotheses tested in the home and character building agencies. Most of the findings relate to the home, learning, decision making, and methods for character development, plus descriptions of age level potentials, especially for decision making.

Duration: 1935-continuing.

Cooperating group(s): Lilly Endowment, Inc.

Publications: Catalog: ***Attitude Education and Character Development,*** which lists 44 publications and includes a price list; is available from the investigator.

42-AA-9 LONGITUDINAL GROWTH STUDIES OF CHILDREN WITH CRANIOFACIAL BIRTH DEFECTS

Investigator(s): Samuel Pruzansky, D.D.S., Director, Center for Craniofacial Anomalies, Medical Center, University of Illinois, P.O. Box 6998, Chicago, Illinois 60680. Phone: (312) 996-6979.
Purpose: To study the epidemiology, genetics, morphology, physiology, and postnatal development of children; and to plot the natural history of children with craniofacial birth defects.
Subjects: Over 3,000 subjects, males and females, from infancy to adulthood.
Methods: The subjects were initially studied as infants. Procedures included roentgenocephalometry, tomography, dental casts, and photographs. Speech and hearing, psychosocial, and pediatric evaluations supplied additional information.
Findings: Patterns of growth have been delineated that are useful in clinical management. Some conditions have been shown to get worse; some show spontaneous improvement; and others remain unchanged. Syndrome-specific cranial morphologies have been described and genetic significance has been described.
Duration: 1949-continuing.
Cooperating group(s): (1) Illinois State Pediatric Institute. (2) Division of Services for Crippled Children, University of Illinois. (3) Cook County Children's Hospital. (4) Division of Research; Maternal and Child Health Services; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare. (5) National Institute of Dental Research; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: *Cleft Palate Journal*, 1971, 8, 239. A list of articles in journals of dentistry, medicine, public health, speech and hearing, and psychology is available from the investigator.

42-AA-10 NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP)

Investigator(s): J. Stanley Ahmann, Ph.D., Project Director; Roy Forbes, Ed.D., Project Director; and George Johnson, Ph.D., Associate Project Director, National Assessment of Educational Progress, 700 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203. Phone: (303) 893-5200.
Purpose: To obtain census-like data on the knowledge, skills, concepts, understandings, and attitudes possessed by young Americans; and to measure the growth or decline in educational attainments that occur over time in the 10 learning areas assessed.
Subjects: 27,000 subjects annually in each age group: 9, 13, and 17 (including high school dropouts and early graduates); and 5,000 young adults annually, ages 26 to 35.
Methods: The National Assessment of Educational Progress is an annual national survey that assesses 10 learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies, and writing. Three areas have been assessed twice: science (1969-70 and 1972-73); writing (1969-70 and 1973-74); and reading (1970-71 and 1974-75). The four age levels assessed were selected to correspond to the end of primary, intermediate, secondary, and postsecondary education. A national probability sample of approximately 2,500 to 2,600 individuals per group administered package, and a sample of 2,100 to 2,200 individuals per individually administered package are assessed annually. The samples are designed to allow NAEP to estimate the performance of the population for that age level. Students in school are assessed in small groups up to 12, or in some cases in individual interviews. Paper and pencil questions, discussions, and actual tasks to perform are included among the exercises. Adults are interviewed individually at home, and 17-year olds who are out of school also respond to exercises individually. Results are reported for about 50 percent of the exercises given each year and are stated in percentages of people responding correctly or incorrectly. Results are reported nationally and for geographic region, size and type of community, age, sex, race, and parental education.
Duration: 1969-continuing.

Cooperating group(s): (1) National Center for Educational Statistics; U.S. Office of Education; Education Division; U.S. Department of Health, Education, and Welfare. (2) Carnegie Corporation. (3) Ford Foundation's Fund for the Advancement of Education. (4) Research Triangle Institute. (5) Measurement Research Center. (6) Education Commission of the States.
Publications: The National Assessment Publications List is available from: Education Commission of the States, 300 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203.

42-AA-11 COLLABORATIVE STUDIES IN CEREBRAL PALSY AND OTHER NEUROLOGICAL AND SENSORY DISORDERS OF INFANCY AND CHILDHOOD

Investigator(s): Joseph S. Drage, M.D., National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare, Bethesda, Maryland 20014. Phone: (301) 656-4000.
Purpose: The Collaborative Perinatal Project (CPP) is a longitudinal multidisciplinary research effort which seeks leads to the etiologies of cerebral palsy, mental retardation, learning disorders, congenital malformations, minimal brain dysfunction, convulsive disorders, and communicative disorders through studies which relate the events, conditions, and abnormalities of pregnancy, labor, and delivery to the neurological and mental development of the children of these pregnancies.
Subjects: During a period from 1959 through 1966, detailed research data were obtained from 50,000 women during pregnancy, labor, and delivery. The children born to these 50,000 women during their participation in the CPP have been examined at specific intervals up to the child's 8th birthday to identify abnormal conditions which might limit the child's ability to reach maximum developmental potential.
Methods: A comprehensive analysis of the data will investigate the complex interactions between the child's condition and the antecedent factors which may have contributed to the condition. The analysis of this data is underway within the National Institutes of Health, within other governmental agencies, and under contract with teams of investigators at medical centers outside of government. The Perinatal Research Branch and the National Institute of Neurological and Communicative Disorders and Stroke have the responsibility for monitoring, coordinating, and administering the overall research effort. The goal of this effort is to make a series of publications available to the research community and the general public. The projected completion of this analysis is June 30, 1976. The data for the CPP were collected at 12 major medical centers in the United States.
Duration: 1956-continuing.
Cooperating group(s): Charity Hospital, New Orleans, Louisiana; Johns Hopkins University School of Medicine, Baltimore, Maryland; Boston Lying-In Hospital, Children's Medical Center, and Harvard University (Warren Anatomical Museum), Boston, Massachusetts; University of Minnesota Medical School, Minneapolis, Minnesota; Columbia-Presbyterian Medical Center, New York, New York; Children's Hospital of Buffalo, Buffalo, New York; University of Oregon Medical School, Portland, Oregon; Children's Hospital of Philadelphia and Pennsylvania Hospital, Philadelphia, Pennsylvania; Brown University, Providence, Rhode Island; University of Tennessee Medical School, Memphis, Tennessee; Medical College of Virginia, Richmond, Virginia.
Publications: (1) Niswander, K.R. ***et al. The women and their pregnancies, 1972.*** (The Collaborative Perinatal Study of the National Institute of Neurological and Communicative Disorders and Stroke.) Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Order Stock No. 1749-00038; price, $10.00. (2) A bibliography is available from the investigator.

42-AA-12 STUDY OF PERSONALITY ORIENTED DEVELOPMENT BY THE TWIN INTRAPAIR COMPARISON METHOD

Investigator(s): William Pollin, M.D., Chief; Donald Cohen, M.D., Clinical Associate; and Eleanor Dibble, Research Social Worker, Section on Twin and Sibling Studies, Adult Psychiatry Branch, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U.S. Department of Health, Education and Welfare, Bethesda, Maryland 20014. Phone: (301) 443-2216.

Purpose: To understand the contributions of genetic, constitutional, and environmental factors to social, emotional, and cognitive development during the first years of life; specifically, to explicate the factors that underlie the emergence of individuality, using twins and triplets as subjects.

Subjects: Twins and triplets, from the prenatal period through elementary school age.

Methods: The central methodological principle emphasizes the effort to define precisely developmental differences within infant and childhood MZ twin pairs, and then search for the determinants of such differences. In the longitudinal study, parents are interviewed as soon as the diagnosis of a twin pregnancy is made. Neurological, pediatric, and developmental assessments are performed at birth and at 3- to 6-month intervals during the first years of life. The parents are interviewed at the same intervals about the children's development and family history. In the preschool period, the children receive standardized psychological testing, are observed in a standardized nursery school setting, and are administered projective psychological testing. Children and families are visited at home and are also seen in structured office settings. In cross-sectional studies, children are seen for developmental evaluation, psychological assessment, and observations of free play; and their parents are interviewed. The value of questionnaire techniques is being investigated. A general research question relates to the way in which constitutional differences in the children elicit different types of parenting, and the ways in which differential parental behavior shapes the emergence of personality differences in children.

Duration: 1967-1980.

42-AA-13 PRIMARY MENTAL HEALTH PROJECT

Investigator(s): Emory L. Cowen, Ph.D., Professor, Department of Psychology, and Director; D.A. Dorr, Ph.D., Research Coordinator; L.D. Izzo, M.A., Chief Psychologist; and M.A. Trost, M.A., Chief Social Worker, Primary Mental Health Project, University of Rochester, River Campus Station, Rochester, New York 14627. Phone: (716) 275-2121.

Purpose: To detect and to prevent school adjustment problems.

Subjects: More than 30 schools in Rochester, New York city and suburban areas, as well as 250 or more schools in 35 to 40 school districts around the world. In the past few years, intensive helping services, averaging about 30 contacts per child, have been brought to more than 1,000 children. Ninety percent of these children are in kindergarten to 3rd grade, consistent with the project's preventive thrust. Approximately one-third of the children come from city schools; two-thirds, from country schools. Although the range of individual problems is enormous, all children have in common the presence of moderate to serious school adjustment problems.

Methods: Using carefully developed screening and early detection methods, the staff of the Primary Mental Health Project (PMHP) identifies primary grade children with early school adjustment problems. Once identified, the children are provided with immediate, extensive, and effective helping services. Carefully selected, trained nonprofessional child aides, working under close professional supervision, increase tenfold the number of children who are helped. The Project staff handles both educational and behavioral problems (e.g., aggression or withdrawal) that interfere with effective learning. The research includes studies on training nonprofessionals, evaluation of programs, process analyses, selection-process relations, selection-outcome relations, and process-outcome relations. Between 20 and 30 different research instruments and assessment procedures are used.

Findings: PMHP has been carefully researched since its inception. Several external reviewers have described it as the most extensively researched school mental health project in history. To date, some 18 separate project outcome studies, many summarized in a recent book on PMHP (see publications), have been carried out. These studies offer strong support for the program's effectiveness in terms both of children's improved educational achievement and behavioral adjustment. Moreover, program gains have been enduring rather than short-term.

Duration: 1958-continuing.

Cooperating group(s): (1) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) New York State Department of Education.

Publications: (1) Cowen, E.L. The community as context. In M.P. Feldman and J. Orford (Eds.), ***The social psychology of psychological problems.*** Chichester, England: John Wiley and Sons, 1979. (2) Cowen, E.L. and Gesten, E.L. Evaluation of community mental health programs. In M. Gibbs ***et al.*** (Eds.), ***Community psychology: Theoretical and empirical approaches.*** New York: Gardner Press, 1979. (3) Cowen, E.L.; Gesten, E.L.; and Wilson, A.B. The Primary Mental Health Project (PMHP: Evaluation of current program effectiveness. ***American Journal of Community Psychology,*** 1979, 7. (4) Gesten, E.L.; Cowen, E.L.; and Wilson, A.B. Correlates of teacher rated competence in a school based mental health program. ***American Journal of Community Psychology,*** 1978, 6. (5) Cowen, E.L. and Gesten, E.L. Program evaluations of the Primary Mental Health Project (PMHP): Research problems and findings. In W. Neigher ***et al.*** (Eds.), ***CMHC program evaluation source book: Development project.*** Washington, D.C., U.S. Government Printing Office, 1978. (6) A list of over 100 publications is available from the investigators.

42-AA-14 LANGUAGE ACQUISITION IN THE CONTEXT OF THE DEVELOPMENT OF BEHAVIOR AND INTERACTION

Investigator(s): Margaret Bullowa, M.D., Researcher, Speech Communication Group, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. Phone: (617) 253-1000.

Purpose: To find the steps by which early stages of the child's language development take place.

Subjects: Four firstborn children from white, English-speaking, middle class families.

Methods: Each child was observed from birth for at least 30 months at home at weekly intervals. On each visit a half hour continuous record was made on tape and film. An observer using a shielded microphone dictated a simultaneous description of ongoing behavior and interaction to supplement the film taken by a robot camera. A timing signal was placed on the tape and film every 5 seconds. (The tape and film from an observation may be synchronized during playback in the laboratory.) In addition, an independent team that consisted of a pediatrician and a developmental psychologist visited each baby's home once a month to assess other aspects of maturation and development. Indexes to sound and transcripts were made from the tapes to permit rapid search. Tapes are analyzed by linguists interested in phonological, semantic, and syntactic features. Synchronized tape and film is studied by linguists and by the principal investigator, who is interested in the communicative behavior of which the vocalization forms a part.

Findings: The most significant finding is the apparent obligatory relationship between the child's vocal sound production and actions with the same meaning in early ***performative sentences.*** Such sentences are used by the child to communicate messages when he is showing something to someone, when he is greeting someone, etc. Another finding is the spontaneous appearance of sentences with topic-comment construction in the child's speech even though parents rarely use this construction. (The construction is not characteristic of adult American English.)

Duration: Pilot study, 1959-1965; present study, 1965-continuing.

Cooperating group(s): National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: (1) ***Journal of Child Psychiatry,*** 1964, III(1), 53. (2) ***Monographs of the Society for Research in Child Development,*** 1964, 29(1) 101-114. (3) ***Language and Speech,*** 1964, 7(2), 107-111. (4) ***Quarterly Progress Report of the Research Laboratory of Electronics,*** 1966, 81, 181-186. (5) ***Lingua,*** 1967, 19(1), 1-59. (6) ***Foundations of Language,*** 1967, 1, 37-65.(7) Reibel, D.A. and Schane, S.A. (Eds.) ***Modern studies in English.*** Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969. Pp. 422-447. (8) Bar-Adon, A. and Leopold, W.F. (Eds.) ***Child language: A book of readings.*** Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971. (9) ***Journal of the American Academy of Child Psychiatry,*** 1971, 10(1), 124-135. (10) ***Quarterly Progress Report of the Research Laboratory of Electronics,*** M.I.T., 1971. No. 100. (11) Bullowa, M. From communication to language. Presented at the International Symposium on First Language Acquisition, Florence, Italy, 1972 (mimeo). (12) Bullowa, M. and Putney, E. A method for analyzing communicative behavior between infant and adult from film. Presented at a meeting of the International Society for the Study of Behavioral Development, Ann Arbor, Michigan, 1973 (mimeo). (13) Bullowa, M. Non-verbal communication in infancy. Presented at the 1st Congress of the International Association for Semiotic Studies, Milan, Italy, 1974 (preprint). (14) Gruber, J.S. Correlations between the syntactic constructions of the child and of the adult. In C.A. Ferguson and D. Slobin (Eds.), ***Studies of child language.*** Holt, Rinehart and Winston, 1973. Pp. 440-445. (15) Bullowa, M. When infant and adult communicate, how do they synchronize their behaviors? In A. Kendon ***et al.*** (Eds.), ***Organization of behavior in face-to-face interaction.*** Mouton, 1975. Pp. 97-129. (16) Bullowa, M. ***et al.*** Infant vocalization: Communication before speech. In T.R. Williams (Ed.), ***Socialization and communication in primary groups.*** Mouton, 1975. Pp. 243-281. (17) Bullowa, M. A matrix for language. Presented at the 21st Annual Conference of the International Linguistic Association, New York City, March 1976 (mimeo). (18) Bullowa, M. From communication to language. ***International Journal of Psycholinguistics*** (in press). (19) Bullowa, M. Infants as conversational partners. In T.F. Myers (Ed.), ***The development of discourse and conversation.*** Edinburgh University Press (in press). (20) Bullowa, M. From performative act to performative utterance. In S.K. Ghosh (Ed.), ***Biology, language and human behavior.*** University Park Press (in press).

42-AA-15 THE HARVARD PRESCHOOL PROJECT

Investigator(s): Burton L. White, Ph.D., Director; Jean Watts, Ph.D., Co-Director; and Barbara Kaban, M.A., The Harvard Preschool Project, Laboratory of Human Development, Graduate School of Education, Harvard University, 418 Larsen Hall, Appian Way, Cambridge, Massachusetts 02138. Phone: (617) 495-1000.

Purpose: To trace the development of educability and competence in children during the first 6 years of life; and simultaneously to trace the role of experience in such development.

Subjects: Presently, 32 normal children, ages 12 to 32 months, of both sexes, half of whom were selected because they exhibited potentials to develop high degrees of general competence during the second and third years of life; while the other children seemed likely to develop a considerably lower level of competence.

Methods: The work in progress constitutes a longitudinal natural experiment. Data are collected by home observation and testing of the children on the average of 2 hours per week. One observational technique consists of tape recordings in which the observer describes the child's activities. The data are then coded onto forms using instruments developed for the project. Another technique involves a checklist record of behavior. Tests of language and cognitive development are administered regularly. Factors are measured including stream of experience, the child's competencies, and salient environmental influences.

Findings: Analysis of preliminary data indicates that the observation instruments are monitoring the development of competence in promising ways. Further indications of how childrearing practices influence the process are becoming clear. The mother, or substitute, usually through indirect action, is seen as the major environmental influence on the development of competence. A longitudinal experiment will be initiated this year. (See ***Research Relating to Children, Bulletin 22,*** May-December 1967, Study 22-DA-3, p. 16.)

Duration: September 1965-continuing.
Cooperating group(s): (1) U.S. Office of Economic Opportunity. (2) Carnegie Corporation, New York. (3) Head Start; Office of Child Development; Office of Human Development; U.S. Department of Health, Education, and Welfare.

42-AA-16 LEARNING OF INCENTIVE VALUE IN CHILDREN

Investigator(s): Jum C. Nunnally, Ph.D., Professor, Department of Psychology, Vanderbilt University, Nashville, Tennessee 37203. Phone: (615) 322-7311.
Purpose: To study the learning of incentive value in children through the use of reward conditioning.
Subjects: Elementary school children, ages 7 to 11.
Methods: Neutral objects (usually nonsense syllables) are associated with receipts of reward, nonreward, and loss of reward in various types of research designs. The amounts and kinds of condition reward value are measured in relation to verbal evaluation, reward expectancy, choice behavior, and measures of selective attention.
Findings: Various consistent effects have been found on the dependent measures, and the research paradigms have been able to differentiate many treatment conditions concerned with secondary rewards.
Duration: 1963-continuing.
Cooperating group(s): Office of Education; U.S. Department of Health, Education, and Welfare.
Publications: (1) Rileigh, K.K. and Nunnally, J.C. A new measure of semantic appraisal for studies of secondary rewards. ***Psychonomic Science,*** 1970, 18, 203-205. (2) Wilson, W.H. and Nunnally, J.C. A naturalistic investigation of acquired meaning in children. ***Psychonomic Science,*** 1971, 23, 149-150.

42-AA-17 CHILDHOOD PSYCHOSIS

Investigator(s): Rudolf Ekstein, Ph.D., Director, Childhood Psychosis Project; Seymour W. Friedman, M.D., Director, Clinical Services; Peter Landres, M.D., Staff Psychiatrist; Beatrice M. Cooper, M.A., Senior Research Social Worker; and Joel Liebowitz, Ph.D., Clinical Research Psychologist, Reiss-Davis Study Center, 9760 West Pico Boulevard, Los Angeles, California 90035. Phone: (213) 204-1666.
Purpose: To develop better diagnostic and treatment methods for childhood psychosis; and to investigate psychoanalytic methods of treatment, the use of support systems, and work with parents, collaborating agencies, schools, and hospitals.
Subjects: 10 children, ages 5 to 20.
Methods: Data were gathered through tape recordings of psychotherapy sessions, therapists' summaries of sessions, and repeated psychological tests. The use of ***distance*** as a psychological mechanism will be investigated. (See ***Research Relating to Children, Bulletin 18,*** March-December 1964, Study 18-L-36, p. 58; and ***Bulletin 20,*** October 1965-May 1966, Study 20-IA-1, p. 72.)
Duration: 1957-continuing.
Publications: (1) ***Children of time and space, of action and impulse.*** New York: Appleton-Century-Crofts, 1966. (2) ***The challenge: Despair and hope in the conquest of inner space.*** New York: Brunner/Mazel, 1971. (3) Ekstein, R. and Friedman, S.W. Do you have faith that I'll make it? ***Reiss-Davis Clinic Bulletin,*** 1971, 8(2). (4) Rubin, K. The flawed hammer. ***Reiss-Davis Clinic Bulletin,*** 1971, 8(2). (5) Cooper, B. The flawed triangle. ***Reiss-Davis Clinic Bulletin,*** 1971, 8(2). (6) Liebowitz, J.M. Transformation of the flaw – Re-evaluation via psychological testing. ***Reiss-Davis Clinic Bulletin,*** 1971, 8(2). (7) Ekstein, R. and Wax, D. Fusion and diffusion of memory and perception in childhood psychosis in relation to psychotherapeutic innovations. ***Reiss-Davis Clinic Bulletin,*** 1972, 9(2). (8) Ekstein, R.; Friedman, S.; and Caruth, E. The psychoanalytic treatment of childhood schizophrenia. In B.B. Wolman (Ed.), ***Manual of child psychopathology.*** New York: McGraw-Hill, 1972. Pp. 1035-1057.

42-AA-18 A SURVEY OF THE NUTRITIONAL STATUS OF BRITISH SCHOOL CHILDREN

Investigator(s): Judith Cook, M.B., B.Chem., Lecturer; Douglas Altman, B.Sc., Lecturer; Walter W. Holland, M.D., F.F.C.M., Professor; and S.G. Topp, B.Sc., Dip.Stat., Lecturer, Department of Clinical Epidemiology and Social Medicine, School of Medicine, St. Thomas's Hospital, London S.E. 1, England; and A. Elliott, M.D., D.P.H., County Medical Officer, Kent County Council, Kent, England. Phone: 928-9292.

Purpose: To examine the dietary intake of school children and investigate its relationship to health and socioeconomic factors; and to explore the extent and nature of poor nutrition.

Subjects: 1,017 children, born between 1953 and 1955 or between 1958 and 1960, residing in and attending Local Authority schools in four areas in Kent, England. The sample was stratified by social class, family size, and weight. Higher sampling fractions were taken for children (1) from larger families, (2) from lower social classes, (3) with no fathers, and (4) with low weights, in order to have adequate numbers of subjects in those groups suspected of having the greatest likelihood of deficiency.

Methods: Field work for each child, conducted between September 1968 and March 1970, was comprised of a weighted diet record, a socioeconomic questionnaire, and a medical examination. The weighted diet record was kept for 1 week and was closely supervised by a trained field worker. The same field worker administered the socioeconomic questionnaire which elicited information on family structure, father's occupation, mother's education and working status, the child's health history and eating pattern, and the parents' heights. The medical examination, carried out by one of two medical officers, included a clinical assessment of the nutritional status of the child; measurements of height, weight, triceps and subscapular skinfold thickness, arm circumference, and peak expiratory flow rate. The medical examination also noted clinical evidence of vitamin deficiency.

Duration: 1968-continuing.

Cooperating group(s): Department of Health and Social Security.

Publications: (1) Cook, J. ***et al.*** A survey of the nutritional status of school children. Relation between nutrient intake and socioeconomic factors. ***British Journal of Preventive Social Medicine,*** 1973, 27, 91-99. (2) Topp, S.G.; Cook, J.; and Elliott, A. Measurement of nutritional intake among school children. ***British Journal of Preventive Social Medicine,*** 1972, 26, 106.

42-AA-19 GUIDANCE INSTITUTE FOR TALENTED STUDENTS

Investigator(s): Philip Perrone, Ph.D., Director; and Robert Male, Ph.D., Associate Director, Guidance Institute for Talented Students, University of Wisconsin, Box 64 Education Building, Madison, Wisconsin 53706. Phone: (608) 262-1234.

Purpose: To develop and demonstrate procedures for the identification and description of talented youth; to study the guidance and educational development of human potential; and to serve as a demonstration and development center for counseling, guidance, and planning activities related to meeting the developmental needs of talented youngsters.

Subjects: This is a longitudinal sample now numbering over 4,000 males and females, ages 6 to 35, from Wisconsin school systems. Subjects are selected using criteria designed to identify talented youths in grades K-12. These criteria include aspects of the student's performance in six talent categories: (1) convergent thinking and behavior, (2) divergent/creative thinking and behavior, (3) goal related thinking and behavior, (4) social skills and behavior, (5) physical skills and behavior, and (6) affective thinking and behavior.

Methods: Subjects participate in activities that have been specified through the collaborative effort of the Institute and each participating school. These activities may include (1) assessment by interview, questionnaire, instrumentation or observation; (2) learning modules and mini-courses; and (3) self-help programming. These activities are designed to (1) foster self-understanding, self-

direction and social responsibility; (2) broaden students' horizons with respect to educational and vocational opportunities; (3) develop realistic self-concepts about their own strengths and interests; (4) foster plans for suitable educational programs; (5) discover methods for overcoming limitations; (6) encourage development of personal and academic strengths; and (7) provide counsel on matters that may influence the individual student's fullest development. Findings are interpreted and implications are considered with the student in individual and family counseling sessions. Institute staff teams may also (1) visit students' schools and hold conferences with the parents of each participating child to inform parents about characteristics of their children that they may not know; (2) stimulate action of parents to meet their child's developmental needs; (3) facilitate communication between the parents, school, and student; and (4) discover points of view and other parental characteristics that affect the student's development. A written report is sent to each student and to his or her school containing information about the student's performance, interests, and needs, as well as what implications these data have for the home and school toward providing desired educational or personal development. In-service training sessions are held to discuss specific students, suggestions to the school, and general principles for guidance and education for talented students. Objectives of these training sessions are (1) stimulation of and assistance with the processes of identification of talented students; (2) encouragement and assistance in making special provision for the development of talented students, and stimulation to do so for other students; (3) provision of information about educational and vocational requirements and opportunities particularly applicable to talented students; (4) encouragement of innovation and experimentation in school procedures for talented students, as well as for other students; and (5) demonstration of appropriate guidance services for talented students. Although there are difficulties in obtaining adequate control groups, some research studies have been done comparing Institute participants with other students matched on academic, familial, school, and community variables. In addition, comparisons of the effectiveness of two or more procedures for accomplishing a particular guidance goal have been made in other Institute research studies.

Findings: The Guidance Institute for Talented Students is a cooperative effort that has maintained direct, personal, longitudinal, and functional relationships between the University of Wisconsin and students, their parents, and their teachers throughout Wisconsin (see ***Research Relating to Children, Bulletin 22,*** May-December 1967, Study 22-QA-1, p. 83). More than 97% of all student participants who have graduated from high school have enrolled in higher education programs. Many have gone on to graduate and professional study. Increasing emphasis at the elementary school level has been placed on self-awareness, creativity, mathematics, and reading; at the middle school and high school, more attention is paid to cognitive style, decision making, and career development.

Duration: 1957-continuing.

Cooperating group(s): (1) Office of Education; Education Division; U.S. Department of Health, Education, and Welfare, (2) Cooperating school systems in Wisconsin. (3) Wisconsin D.P.I.

Publications: (1) Male, R. and Perrone, P.A. Identifying talent and giftedness. Part 3. ***Roeper Review,*** 1980, 2(3). (2) Sanborn, M.P. The gifted and talented: Their education and development, 1979. ***Seventy-eighth Yearbook of the National Society for the Study of Education,*** 1979. (3) Male, R. and Perrone, P.A. Identifying talent and giftedness. Part 2. ***Roeper Review,*** 1979, 2(2). (4) Male, R. and Perrone, P.A. Identifying talent and giftedness. Part 1. ***Roeper Review,*** 1979, 2(1). (5) Zaffran, R.T. and Colangelo, N. Counseling with gifted and talented students. ***The Gifted Child Quarterly,*** Fall 1977. (6) Rodenstein, J.; Pfleger, L.R.; and Colangelo, N. Career development of gifted women. ***The Gifted Child Quarterly,*** Fall 1977. (7) Perrone, P.A. and Pulvino, C.J. New directions in the guidance of the gifted and talented. ***The Gifted Child Quarterly,*** Fall 1977. (8) Colangelo, N. and Pfleger, L.R. A model counseling laboratory for the gifted at Wisconsin. ***The Gifted Child Quarterly,*** Fall 1977. (9) Laboratory monograph: Research on the gifted and talented student, 1976.

42-AA-20 PANEL STUDY OF FAMILY INCOME DYNAMICS

Investigator(s): James N. Morgan, Ph.D., Program Director; and Greg Duncan, Ph.D., Study Director, Institute for Social Research, University of Michigan, P.O. Box 1248, Room 3063, Ann Arbor, Michigan 48106. Phone: (313) 764-1817.

Purpose: To measure changes in economic well being and explain them by following a representative sample of families over time, monitoring their economic status, employment experiences, housing, transportation, food consumption, attitudes, and behavior patterns.

Subjects: A national probability sample oversampling lower income families but weighted to provide unbiased estimates. All individuals from the original 1968 sample of families are retained.

Methods: Families containing sample members are interviewed each year. Personal interviews were conducted during the first 5 years; currently families are contacted by telephone. The 1976 interview (9th year) included a supplemental interview with wives. The questionnaire used has a very detailed income sequence. An achievement motivation and a cognitive skills sentence completion test was included in 1972. Many attitude measures were included in the interviews during the first 5 years. Since the study follows children who leave parental homes, there are now 1,500 individuals who were children in 1968 and are now heads of households, for which there is information reported by parents in the early years of the study.

Duration: 1967-continuing.

Cooperating group(s): Office of the Assistant Secretary for Planning and Evaluation; U.S. Department of Health, Education, and Welfare.

Publications: ***Five thousand American families. Patterns of economic progress,*** Vols. 1-5. Ann Arbor, Michigan: Institute for Social Research, 1974-1977.

42-AA-21 ST. LOUIS BABY STUDY

Investigator(s): Thomas E. Jordan, Ed.D., Graduate Dean and Director of Research, Graduate School and Office of Research, University of Missouri, 8001 Natural Bridge Road, St. Louis, Missouri 63121. Phone: (314) 453-0111.

Purpose: To describe developmental patterns of children; and to identify factors influencing physical and cognitive attainment.

Subjects: Of three cohorts of children the most important has been the second, a set of 1,008 babies born in St. Louis between Winter 1966 and Spring 1967.

Methods: This study incorporates data from biological, behavioral, and social information on the development from birth of 1,000 children. The cohort is comprised of children from families of all social classes, and ethnic and income levels. Cooperation was consistent across subjects. Information was collected through individual case studies in which families were visited by caseworkers at scheduled times. The hypothesis tested is that there is a statistically significant relationship between a set of predictors and criteria. Data were gathered on predictor variables grouped under the headings child, mother, and ecology. Child predictors included birthweight, Apgar score, sex, biological risk status at birth, a measure of development at 12 months using the Jordan Ad Hoc Scale of Development (AHSD), and weight at 12 months. The AHSD was developed to elicit information during interviews with unsophisticated mothers. Validity of the instrument is indicated by a statistically significant correlation between 12-month Ad Hoc scores and the 24-month Binet mental age measure. Maternal predictors included an anxiety score 6 months postpartum, age at delivery, IQ, an authoritarian score, childrearing ideology, and marital status. Ecological data included race and several measures of socioeconomic status at various ages. Measurements of cognitive attainment were taken at ages 2, 3, 4, 5, 6, 7, and 8. Criteria were (1) age 2: the intellectual score of the Preschool Attainment Record (Doll, 1966) and the Verbal Language Development Scale (Mecham, 1959); (2) age 3: the Peabody Picture Vocabulary Test, Form A (Dunn, 1965); (3) age 4: the Boehm Test of Basic Concepts and the Preschool Inventory (Caldwell, 1970); (4) age 5: the Illinois Test of Psycholinguistic Abilities, Auditory Association and

Auditory Sequential Memory Subtests, and the Wechsler Preschool and Primary Scale of Intelligence Vocabulary Subtest; (5) age 6: the Coloured Progressive Matrices, Peabody Picture Vocabulary Test (B), and Wepman's test of Auditory Discrimination; (6) age 7: the WRAT Reading Test, and Fulton's Test of Occupational Knowledge; (7) age 8: the SESAT Reading Test, and a classroom rating scale; (8) age 9: the Rubin-Balow School Behavior Profile; (9) at all ages, birth to age 11 (ad hoc) height and weight are recorded; (10) at all ages, measures of maternal values and family characteristics are gathered. The multiple linear regression model developed by Bottenberg and Ward, and Koplyay's Automatic Interaction Detector program (AID-4) are used in statistical analysis of the data.

Duration: 1960-continuing.

Publications: (1) Jordan, T.E. ***Old Man River's children.*** Academic Press (in press). (2) Emhart, C.B.; Spaner, S.D.; and Jordan, T.E. Validity of selected preschool screening tests. ***Contemporary Educational Psychology,*** 1977, 2, 78-89. (3) Jordan, T.E. Developmental factors influencing exceptional status at age six years. ***Contemporary Educational Psychology,*** 1976, 1, 1-16. (4) Jordan, T.E. ***The mentally retarded*** (4th Ed.). Merrill Books, 1976 (contains original data from the study). (5) Jordan, T.E. Influences on preschool cognitive attainment. ***MLRV Monographs,*** 1976, 6(1). (6) Jordan, T.E. The natural history of 1,008 infants in the preschool years. National Institute of Education, 1974. (7) Jordan, T.E. ***Development and disability at age four: A prospective longitudinal study.*** CEMREL, Inc., 1972. (8) Jordan, T.E. Early developmental adversity and the first two years of life. ***Multivariate Behavioral Research Monographs,*** 1971, 6(1).

42-AA-22 CHILDREN'S CANCER STUDY GROUP

Investigator(s): Denman Hammond, M.D., Chairman, Children's Cancer Study Group, School of Medicine, University of Southern California, 1721 Griffin Avenue, Los Angeles, California 90031. Phone: (213) 746-2311.

Purpose: To improve the treatment of childhood cancers through controlled clinical trials of newly developed therapies and combinations of therapeutic modalities carried out by multidisciplinary teams.

Subjects: 4,000 pediatric patients each year, ages 0 to 21, both leukemic and solid tumor patients.

Methods: Data collection and management are carried out in the group's Operations Office located at the University of Southern California School of Medicine in Los Angeles. All patient data are computerized and analyzed by the statistical staff of the Operations Office.

Duration: 1955-continuing.

Cooperating group(s): (1) National Cancer Institute, Division of Cancer Treatment, Clinical Investigations Branch. (2) Twenty-three researchers at university medical schools and children's hospitals throughout the United States and Canada including: University of Michigan, Ann Arbor; Children's Hospital of the District of Columbia; Children's Hospital of Los Angeles; Babies Hospital, New York; Children's Hospital of Pittsburgh; Children's Hospital of Columbus; Children's Orthopedic Hospital, Seattle; University of Wisconsin, Madison; University of Minnesota, Minneapolis; University of Utah Medical Center, Salt Lake City; Children's Memorial Hospital, Chicago; Princess Margaret Hospital, Toronto; University of Texas, San Antonio; University of Rochester, New York; Children's Hospital of Milwaukee; Children's Hospital of Philadelphia; Cornell Medical Center, New York; Indiana University, Indianapolis; New Jersey College of Medicine, Newark; Harbor General Hospital, Torrance; University of California, San Francisco; Children's Hospital of Louisville; and University of British Columbia, Vancouver.

Publications: A list of publications is available from the investigator.

42-AA-23 CRANIOFACIAL GROWTH STUDIES OF AUSTRALIAN ABORIGINALS

Investigator(s): Tasman Brown, D.D.Sc., F.R.A.C.D.S., Professor, Department of Restorative Dentistry; and G.C. Townsend, Ph.D., Lecturer, Department of Oral Biology, University of Adelaide, Box 498 G.P.O., Adelaide, South Australia 5001.

Purpose: To correlate morphological characteristics, functional relations, and patterns of growth and development from childhood through adolescence to young adulthood; and to study genetic family variation in metric characteris of the dentition.
Subjects: Children of pure Aboriginal ancestry, ages 6 to 20. 1,717 sets of dental casts were made for 446 boys and girls; and 1,169 sets of skull roentgenograms, for 250 boys and girls.
Methods: Field visits to Central Australia were made each year from 1961 to 1971. Semiautomatic methods of data recording, using electronic digitizing instruments, have been developed to obtain measurements from dental casts and skull roentgenograms. Genealogical records and somatometric data were also obtained. Multivariate analysis of data has included factor analysis, discriminant function, and intraclass correlation methods.
Findings: Reports have been concerned with metric characters of the dentition, skeletal maturation, the timing and sequence of tooth emergence, craniofacial morphology and growth, and general body growth. Growth standards have been developed for Australian Aboriginals.
Duration: 1961-continuing.
Cooperating group(s): Australian Institute of Aboriginal Studies, Canberra, Australia.
Publications: (1) Townsend, G.C. and Brown, T. ***Tooth size characteristics of Australian Aborigines.*** Australian Institute of Aboriginal Studies, 1977. (2) Brown, T. and Grave, K.C. Skeletal maturation in Australian Aborigines. ***Australian Paediatrics Journal,*** 1976, 12, 24-30. (3) Townsend, G.C. Tooth size variability in Australian Aborigines: A descriptive and genetic study. Ph.D. Thesis, University of Adelaide, 1976.

42-AA-24 THE ABERDEEN CHILD DEVELOPMENT STUDY

Investigator(s): Fiona Wilson, B.A., Research Psychologist; Barbara Thompson, Ph.D., Research Sociologist; and Raymond Illsley, Ph.D., Professor of Medical Sociology and Director; Medical Sociology Unit, Institute of Medical Sociology, Medical Research Council, Westburn Road, Aberdeen AB9 2ZE, Scotland.
Purpose: To determine the causal sequences underlying the relationship between levels of physical growth, intellectual functioning, physical functioning, and family patterns of reproduction, specific events of pregnancy, labor and puerperium; and to investigate the antecedents of educational performance for an entire population.
Subjects: All children born in Aberdeen City from 1950-1955, and one-fifth of their mothers.
Methods: The causal sequences are complex and may involve genetic inheritance, physiological or neurological damage, and socialization experiences between birth and the school years. In cases of severe handicap it may be possible to identify congenital or obstetric antecedents, even though precise knowledge of the mechanism may be lacking, but postnatal events may also reinforce or mitigate the original handicap. With less severe handicap where no neurological signs are evident and where, in general, incidence is heavily skewed toward poorer socioeconomic groups and larger families, social transmission through familial and educational processes of socialization is clearly most relevant. Again, however, the mechanisms of transmission need to be explored. Medical data relating to all births in Aberdeen City between 1950 and 1955 are being analyzed against a variety of social, educational, and psychological test material collected on these children during their school years. The Reading Survey data include the results of reading tests administered in 1962; IQ and attainment scores from routine testing in the schools at various ages; sociometric test results; behavioral questionnaires filled out by class teachers; extracts from school medical records and a variety of social, demographic, and school experience data. Inevitably, some of the children are siblings. A one in five sample of the children's mothers were interviewed at length concerning the family situation in general and the index child in particular. Data are available on magnetic tape. These data have already been used to some extent to study certain specific topics including mental subnormality, low birthweight, and delinquency. However, the main aim of the current project is to explore the maximum amount of data to investigate the various antecedents of educational performance for the population as a whole. Some analyses of data currently in progress include an

investigation of the association between birthweight and length of gestation, and later school performance; the antecedents and the consequences for the child of having a teen-age mother.
Duration: 1962-continuing.
Publications: Birch ***et al. Mental subnormality in the community.*** Baltimore: Williams and Wilkins, 1970.

42-AA-25 THE ETIOLOGY OF ALCOHOLISM: A LONGITUDINAL STUDY

Investigator(s): John A. Carpenter, Ph.D., Director; and David Lester, Ph.D., Director of Research, Center of Alcohol Studies, Rutgers University, Smithers Hall, New Brunswick, New Jersey 08903. Phone: (201) 247-1766.
Purpose: To elucidate the social cultural, psychic, and somatic characteristics that are predictive of a heightened risk of developing problem drinking or alcoholism.
Subjects: 5,250 girls and boys, ages 13 (2700), 16 (750), 19 (750), 22 (750), and 25 (300), born in New Jersey. The subjects will be re-examined at 3- and 6-year intervals, depending on age.
Methods: The study (designed to run 30 years), formally described as a replicated cross-sectional, multiple cohort longitudinal study, will examine individuals of different birthdates at frequent intervals following the principles first described in the classic work of Schaie (1965). Data will be gathered from four general areas: sociology, physiology-biochemistry, personality-behavior, and perception-cognition. Scientists from these discipline areas and from life span developmental psychology and statistics will collaborate in the program. The Eagleton Institute of Politics, Rutgers University will obtain the samples of subjects to be used in the study through telephone contacts. In a parallel study, an anonymous matching survey will obtain information on drinking, socioeconomic status, geographic representativeness, religion, etc. of a random sample of non-participants. The main sample will be compared to the results of the survey to ensure proper representativeness despite refusals to participate. To maintain the interest of the subjects and to ensure their continued participation over the years, subjects will be paid for their participation. They will be contacted annually and brief progress reports will be elicited.
Duration: March 1978-2008.
Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-AA-26 NATIONAL CHILD DEVELOPMENT STUDY (1958 COHORT)

Investigator(s): Ken Fogelman, Senior Research Officer, National Children's Bureau, 8 Wakley Street, Islington, London EC1, England. Phone: 01-2789441-7.
Purpose: To conduct a longitudinal, multidisciplinary study to monitor the development of a representative sample of British children; and to investigate relationships between progress and early circumstances and background factors in children's lives.
Subjects: All children living in England, Scotland, and Wales born between March 3 and 9, 1958 (approximately 17,000 children). At age 16 (i.e., at the latest follow-up) information was obtained on 87% of those known to be alive and in the country.
Methods: The study is based on the British Perinatal-Mortality Survey which obtained physical and social information on the subjects at birth. The National Children's Bureau has carried out full follow-ups at ages 7, 11, and 16, and occasional follow-ups of small groups. At each full follow-up, the children have been medically examined, parents have been interviewed, and school staffs have completed questionnaires and administered tests. When the children were ages 11 and 16, they also completed questionnaires. The current study is examining: longitudinal patterns of educational attainment, behavior and physical growth and social factors associated with change; the transition from school to work and further education; attitudes to and relationships within the family;

children's housing circumstances and their relationship with development; childhood asthma; speech and language problems; vision defects; smoking and drinking among 16-year-olds; sex education and preparation for parenthood; school attendance and truancy; ability grouping in schools: characteristics of schools and children's attainment; immigrant children; children in one-parent families; adopted and illegitimate children; the progress of children identified early as gifted; a comparison of the progress of children in selective and nonselective schools; the early work experiences of handicapped school leavers; and the development of children living above ground floor level.

Findings: Refer to Publications below.

Duration: 1958-continuing.

Cooperating group(s): (1) Department of Education and Science. (2) Department of Health and Social Security. (3) Social Science Research Council. (4) Institute of Child Health. (5) National Birthday Trust Fund. (6) National Foundation for Educational Research in England and Wales. (7) Society of Education Officers. (8) Society of Community Medicine. (9) Association of Directors of Education (Scotland).

Publications: To date, 12 books and about 150 papers have been published. A full list is available from the National Children's Bureau.

42-AA-27 INDIVIDUAL DEVELOPMENT AND ENVIRONMENT

Investigator(s): David Magnusson, Ph.D., Scientific Director and Professor; and Anders Dunér, Ph.D., Project Leader and Docent, Department of Psychology, University of Stockholm, Box 6706, S-113 85, Stockholm, Sweden.

Purpose: To study how the individual's life situation as an adult (as it can be described and evaluated by others, and as it is experienced by the individual) is determined in a developmental process in which potential person factors interact with physical, social, and psychological factors in the environment.

Subjects: Two groups of pupils (1,100 boys and girls in each group) from the Örebro School System. In one group the pupils were born in 1955; and in the other, the children were born in 1952.

Methods: The principal method is longitudinal with successive age groups. So far, the development of the main group has been followed from age 10 to age 16 for all children, and to age 19 for those children who passed the gymnasium (secondary school). Problems are analyzed within psychological and methodological models relevant for open systems; e.g., causal analysis, change models, classification into homogeneous classes, relative achievement, and decision making. The data were collected at investigations of the total groups on several occasions and include: socio-economic background, school achievement and satisfaction, peer relations, attitudes, values, norms, factual norm- (or law-) breaks, intelligence, creativity, symptoms of maladjustment or emotional disturbances, motives, plans, and dreams related to the educational-vocational choice process. The variables are measured with various kinds of questionnaires, situation inventories, tests and other group administered instruments, and with ratings. One sample has been measured with a number of physiological variables. Another sample has been studied thoroughly in interviews with parents, children, and teachers, as well as through observations in order to elucidate problems related to social isolation. A study of the main group's life situation and world perception (when the subjects are age 25) will include (1) an investigation on register data for the total group; (2) a mailed questionnaire investigation of the total group; and (3) intensive, individual studies of homogeneous groups of special interest; e.g., risk groups.

Duration: 1964-continuing.

Cooperating group(s): (1) Swedish National Board of Education. (2) Swedish Tercentenary Fund. (3) Swedish Council for Planning and Coordination of Research. (4) National Swedish Board of Universities and Colleges.

Publications: (1) Magnusson, D. A longitudinal investigation of development and adjustment. The Örebro Project. In A. Dunér (Ed.), ***Research into personal development: Educational and vocational choice.*** Amsterdam: Swets and Zeitlinger, 1978. (2) Magnusson, D.; Dunér, A.; and Zetterblom, G. ***Adjustment: A longitudinal study.*** Stockholm: Almqvist & Wiksell (New York: Wiley), 1975.

42-AA-28 A LONGITUDINAL STUDY OF PERSONALITY AND COGNITIVE DEVELOPMENT IN YOUNG CHILDREN

Investigator(s): Jack Block, Ph.D., Professor; and Jeanne H. Block, Ph.D., Research Psychologist, Department of Psychology, Institute of Human Development, Tolman Hall, University of California, Berkeley, California 94720. Phone: (415) 642-7091.

Purpose: To investigate motivational and personality aspects of cognitive functioning in young children followed from age 3 through high school; to examine the individual differences manifested by children in their approaches to problem solving situations and the larger world; and to focus not upon motivational, personality, and cognitive facets considered separately, but rather upon their developmental interplay. Specifically, the aims of the research are (1) to develop reliable, broadly-based, construct-valid, and longitudinally repeatable indices of personality functioning; (2) to develop a battery of reliable measures representing the major facets of what are termed "problem solving strategies"; (3) to relate personality measures to dimensions characterizing thought processes and cognitive development via both individual and intraindividual analytical approaches; (4) to study the relation of various degrees or stages of personality development to the environmental or learning context in which the child has lived and developed; (5) to study the relation of patternings or profiles of cognitive characteristics to the same environmental or learning context; (6) to study the differential effects of sex on personality, cognitive development, and the relationship between these domains; and (7) to study, via a short-term longitudinal approach, the stability and change in the relationships found at earlier years (ages 3, 4, and 5) by reexamination at later ages (7 to 8 years) and at the preadolescent and adolescent periods.

Subjects: 160 children: 81 girls and 79 boys, ages 3 to 8, enrolled at the Jones Child Study Center, Berkeley, California. The sample is 60% Caucasian and includes Black, Oriental, and Mexican-American subjects and their parents.

Methods: This is a longitudinal study (in progress 9 years) in which a battery of widely ranging procedures is used to assess annually the children's categorization, satiation, curiosity, delay of gratification, affect differentiation, role taking, sharing, conservation, creativity, motor inhibition, activity level, and dual focus. Assessment instruments include the Wechsler Preschool and Primary Scale of Intelligence, Embedded Figures Test, Rod and Frame Test, Raven Progressive Matrices, Peabody Picture Vocabulary Test, and Matching Familiar Figures Test. (For a description of the early stages of data collection, see ***Research Relating to Children, Bulletin 35,*** March-August 1975, Study 35-DB-3, Pp. 47-48.) Some studies conducted under the research include (1) The Relationship of Parental Teaching Strategies to Ego-resiliency in Preschool Children; (2) Some Misgivings about the Matching Familiar Figures Test as a Measure of Reflection-Impulsivity; (3) Intolerance of Ambiguity in Preschool Children: Psychometric Considerations, Behavioral Manifestations, and Parental Correlates; (4) Fire and Children: Learning Survival Skills; (5) Sex-role Typing and Instrumental Behavior: A Developmental Study; and (6) Studies of Agreement between Parents on Child-rearing Values and Emphases. In addition to these studies, several papers are being prepared on diverse topics. The last 2 years of the project have been devoted to data analysis. During each of the earlier years, all procedures administered were scored, scaled, or coded independently by two persons and the data were keypunched and verified. Analyses during the first several years were devoted largely to evaluation of the psychometric properties of the data collected. Measures that were unreliable or nondifferentiating were dropped from the battery or were modified. The construct validity of each measure was evaluated in order to insure that the procedure was tapping, in fact, the behavioral dimension intended. Currently, graduate students are conducting a follow-up study of the children. Work to date has involved the development of a new test battery,

appropriate for administration to the children now that they are 11 years old. The battery includes many of the same procedures as in previous years, so that the developmental course of particular interests, abilities, and behaviors can be plotted over time. In addition, the present battery includes many new measures that tap dimensions that have become developmentally salient only recently. Data collection for the 11-year olds within the next 2 years will be completed, and then two more assessments of the participants are planned -- one in grade 9 and one in the last year of high school. When the program of data collection is completed, there will be data available to trace developmental patterns of personality and problem solving approaches from the preschool through the high school years.

Duration: 1968-continuing.

Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: (1) Block, J.H. Another look at sex differentiation in the socialization behaviors of mothers and fathers. In F.L. Denmark and J. Sherman (Eds.), ***Psychology of women: Future directions for research.*** New York: Psychological Dimensions, Inc. (in press). (2) Harrington, D.; Block, J.H.; and Block, J. Intolerance of ambiguity in preschool children: Psychometric considerations, behavioral manifestations, and parental correlates. ***Developmental Psychology,*** 1978. (3) Block, J.H. Issues, problems, and pitfalls in assessing sex differences: A review of ***The psychology of sex differences. Merrill-Palmer Quarterly,*** 1976, 22(4). (4) A list of publications is available from the investigators.

GROWTH AND DEVELOPMENT

General

42-BA-1 GROWTH AND DEVELOPMENT OF CHILDREN DURING PUBERTY

Investigator(s): Siv Fischbein, Ph.D., Project Leader, Department of Educational Research, Stockholm Institute of Education, Stockholm, Sweden.

Purpose: To study nature-nurture contribution to the growth and development of children during puberty.

Subjects: 323 twin pairs and 1,194 controls (equally distributed by sex) attending the same classes, followed from grades 3 to 9. Of the twins, 94 are monozygotic; 133, dizygotic like-sexed; and 96 are dizygotic unlike-sexed pairs.

Methods: Height and weight measurements as well as ratings of secondary sex characteristics have been collected twice a year from ages 10 to 16. Boys attending the gymnasium have been measured up to age 17, and like data have been collected at the enrollment to military service at age 18. Menarcheal age for girls has been registered. From grades 3 to 7, the twins and their controls have been given a test measuring concentration, endurance, and achievement. It consists of mental problems that are to be solved according to instructions. Standardized achievement test results as well as ratings of children's own results have been collected in grades 3 and 6 in Mathematics and Mother Tongue and in grade 6 in Mathematics only. In these grades, the teachers have also rated the pupils' behavior in school. Marks in grade 6 have been collected in Mother Tongue, Mathematics, and English. A multidimensional questionnaire asking the pupils what they and others think about them has been given in grades 4 and 6. In grade 5, and for boys at the enrollment to military service, differential ability test results have been collected. Socioeconomic background data, such as father's occupation and income, are also available for the twin sample and controls.

Findings: A model for taking interactional and correlational effects into account when interpreting longitudinal twin data has been elaborated in the project. Results have also been presented for different types of variables and for different socioeconomic groups.

Duration: 1964-1979.

Cooperating group(s): (1) Swedish National Board of Education. (2) Swedish Council for Social Science Research.

Publications: (1) Fischbein, S. and Nordqvist, T. Profile comparisons of physical growth for monozygotic and dizygotic twin pairs. ***Annals of Human Biology,*** 1978, 5(4), 321-328. (2) Fischbein, S. Heredity-environment interaction in the development of twins. ***International Journal of Behavioral Development,*** 1978, 1, 000-000. (3) Fischbein, S. Onset of puberty in MZ and DZ twins. ***Anthropologiai Közlemenyek,*** 1977, 21, 71-79. (4) Fischbein, S. Intra-pair similarity in physical growth of monozygotic and of dizygotic twins during puberty. ***Annals of Human Biology,*** 1977, 4(5), 417-430. (5) Engström, L.M. and Fischbein, S. Physical capacity in twins. ***Acta Geneticae Medicae et Gemellologiae,*** 1977, 26, 159-165.

42-BA-2 LONGITUDINAL STUDY OF GROWTH AND DEVELOPMENT OF THE CHILD

Investigator(s): Marcel Graffar, M.D.; and E.A. Sand, M.D., Professors; and A. Wachholder, M.D.; and C. Hauzeur, Research Assistants, Laboratory of Epidemiology and Social Medicine, School of Public Health, Université Libre de Bruxelles, Campus Erasme 590, 808, route de Lennick, Bruxelles, Belgium 1070. Phone: (02) 569-56-00.

Purpose: Somatic aspects: To establish landmarks and correlations of growth pattern in a longitudinal sample of healthy children at different ages. Psychosocial aspects: To work out longitudinal associations and correlations between observations made at different age levels.
Subjects: 263 nonpathological girls and boys followed from birth to age 18.
Methods: The children were examined at regular intervals: in the first year of life, at ages 1, 3, 6, 9, and 12 months; during the second year, at 18 and 24 months; and from ages 3 to 18 years, at each birthday. The somatic research: Numerous biometric data (e.g., height, weight, cephalic perimeter, thoracic diameter, skinfolds, bone characteristics, and maturation) and general health appreciation were recorded. Psychological research: Evaluations were made of motor and intellectual development. Mother and child interviews were conducted concerning behavioral characteristics (e.g., sleeping, eating, toilet training, school success or failure, autonomisation, social relations, etc.).
Duration: 1955-1980.
Cooperating group(s): (1) Rockefeller Foundation. (2) Belgian Ministry of Education. (3) Fonds National de la Recherche Scientifique Belge.
Publications: A list of publications is available from the investigators.

Physical

42-C8-1 RESEARCH ON THE ETIOLOGY AND TREATMENT OF PRADER-WILLI SYNDROME

Investigator(s): Stephen Sulzbacher, Ph.D., Associate Professor; and Keith Crnic, Ph.D., Instructor, Department of Psychiatry and Behavioral Sciences; Vanja A. Holm, M.D., Assistant Professor, Department of Pediatrics; and Peggy L. Pipes, M.P.H., Nutritionist, Child Development and Mental Retardation Center, University of Washington, Mail Stop WJ-10, Seattle, Washington 98195. Phone: (206) 543-3406.
Purpose: To discover methods of controlling the obesity and reducing the degree of mental retardation and behavioral disturbances that accompany Prader-Willi Syndrome, a relatively rare, presumably genetic disorder of unknown etiology.
Subjects: 24 boys and 8 girls with Prader-Willi Syndrome, ranging in age from several months through early adulthood.
Methods: Children afflicted with the Prader-Willi Syndrome begin a rapid weight gain between ages 1 and 4, which has historically led to extreme obesity. Mental retardation has always been associated with the syndrome. Children with Prader-Willi Syndrome have been placed on a regular monthly schedule of monitoring height and weight at a multidisciplinary clinic in Seattle. During visits, caloric intake and diet are reviewed or modified, if needed, and behavioral counseling is provided for any home or school problems. When necessary, curriculum advice is dispensed to the children's teachers. Where indicated, hormone treatment is initiated to modify the hypogenitalism associated with the syndrome, and orthopedic interventions are prescribed for scoliosis often seen in this population. Fat biopsies are planned to detect abnormalities in those tissues or tissue processes.
Findings: Psychological testing results to date suggest a correlation between age and IQ and also between weight and IQ. The investigators hypothesize that the degree of mental retardation is reduced in children for whom it is possible to maintain weight in normal growth channels. For eight of these children, it has been possible to maintain their weight within normal limits. This group has scored consistently higher than other Prader-Willi children on individual standardized tests of intelligence.
Duration: 1971-continuing.
Cooperating group(s): Children's Bureau; Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

Publications: (1) Holm, V.A. and Pipes, P.L. Food and children with Prader-Willi Syndrome. ***American Journal of Diseases of Children,*** 1976, 130, 1063-1067. (2) Pipes, P.L. and Holm, V.A. Weight control of children with Prader-Willi Syndrome. ***Journal of the American Dietetic Association,*** 1973, 62, 520-524.

42-CC-1 ELECTROPHYSIOLOGICAL MEASURES OF CEREBRAL SPECIALIZATION IN INFANTS AND CHILDREN

Investigator(s): David William Shucard, Ph.D., Associate Professor and Director, Department of Behavioral Sciences, Brain Sciences Laboratories, National Jewish Hospital and Research Center, 3800 East Colfax Avenue, Denver, Colorado 80206. Phone: (303) 388-4461, Ext. 530; and Joseph Campos, Ph.D., Professor, Department of Psychology, University of Denver, Denver, Colorado 80210.

Purpose: To study the development of hemispheric specialization of function using electrophysiological and behavioral techniques.

Subjects: Boys and girls, ages 3 months to 7 years.

Methods: Infants will be tested when the mothers judge the baby to be most alert and ready for feeding. Infants will be held by their mothers, who will be comfortably seated in a sound attenuated, electrically shielded room. Children will be treated similarly but not held by their mothers. Recording electrodes will be affixed to heads at T_3 and T_4, C_3 and C_4, and at each ear (A_1 and A_2). EEG and evoked potential recordings will be made between $T_3 - C_z$, $T_4 - C_z$, and T_3, T_4, C_3, C_4 - linked ears. Two Bioelectric CA-5 calibrators will be placed in series with the subject's head. These calibrators will be triggered 250 msec before each stimulus, so that a calibration signal (10 μv for 20 msec) sensitive to changes in electrode impedance will be recorded 250 msec prior to the response to each stimulus. Subjects will be studied under two experimental conditions: verbal presentation and musical presentation. Order of presentation of the verbal and musical conditions will be counterbalanced across subjects.

Findings: The initial study with 3-month olds indicates that females have a strong left hemisphere bias for receiving stimuli; whereas, males have a right hemisphere bias. The behavioral ***looking paradigm*** indicates that this is a promising technique for obtaining information on verbal comprehension in infants.

Duration: June 1978-continuing.

42-CC-2 STYLES OF ANALYTICAL COGNITION RELATED TO BINOCULARITY

Investigator(s): Martin H. Birnbaum, O.D., Associate Clinical Professor, State College of Optometry, State University of New York, 100 East 24th Street, New York, New York 10010. Phone: (212) 477-7900.

Purpose: To assess relationships between binocular vision problems (including strabismus) and styles of analytical cognition.

Subjects: 100 girls and boys, ages 4 to 15, showing manifest strabismus or extraocular muscle imbalance.

Methods: The Children's Embedded Figures Test is given to the subjects to assess differences in performance in subjects with different vision problems.

Duration: September 1976-December 1979.

Cooperating group(s): Optometric Center of New York.

42-CC-3 TEMPORAL ASPECTS OF YOUNG INFANTS' VISUAL PERCEPTION

Investigator(s): William Kessen, Ph.D., Eugene Higgins Professor and Chairman of Psychology and Professor of Pediatrics; and Robert Milstein, Ph.D., Postdoctoral Associate, Psychology Department, Yale University, 2 Hillhouse, New Haven, Connecticut 06520. Phone: (203) 436-1594.
Purpose: To understand better the early organization of time by the human infant.
Subjects: Several hundred newborn human infants at term and premature.
Methods: Eye orientation is studied by videotaped samples of corneal reflection under systematic visual stimulation. Taste is studied with a multiple-channel nipple; the babies' responses to solutions (especially sweets) are assessed. Observations of ocular orientation and of taste are made in the hospital shortly after birth and later (until age 6 months) in the laboratories of Studies of Infancy.
Findings: The sensitivity of newborn infants to peripheral visual stimulation and their accurate evaluation of sweetness in solution has been shown. Current research is aimed at examining the temporal character of the two competencies.
Duration: January 1978-December 1983.
Cooperating group(s): National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-CE-1 NUTRITIONAL STUDIES ON INFANTS

Investigator(s): John V.G.A. Durnin, M.D., D.Sc., Professor of Physiology; and F. McKillop, B.Sc., Research Assistant, Institute of Physiology, University of Glasgow, Glasgow, Scotland W2. Phone: 041-339-8855.
Purpose: To investigate the growth and nutrition of infants as related to age and socioeconomic status.
Subjects: 500 boys and girls, ages 3 months to 2 years, representative of a random stratified sample from the city of Glasgow, Scotland.
Methods: Individual weighed food intake was conducted during 5 to 7 consecutive days. Simple anthropometric methods were used.
Duration: January 1978-December 1979.
Cooperating group(s): Scottish Hospital Endowments Research Trust.

42-CE-2 AN ANALYSIS OF THE DIETS, ACADEMIC ACHIEVEMENT IN MATHEMATICS AND READING, AND SUGAR CONSUMPTION PATTERNS OF 6TH GRADE PUPILS FORMERLY STUDIED IN 3D GRADE

Investigator(s): Elizabeth Stimson, Ed.D., Assistant Professor, Department of Education, Bowling Green State University, Bowling Green, Ohio 43403. Phone: (419) 372-2531.
Purpose: To collect follow-up data on the food intake patterns and academic achievement of elementary school pupils studied in 1975-76; and to evaluate information about diet, achievement, sugar consumption, and the kind and amount of nutrition education received by these pupils.
Subjects: As many as are available of the 216 subjects who took part in the 1975-76 study (216 elementary school pupils from middle class SES families attending Lucas County, Ohio public schools).
Methods: Following the collection of data, Pearson product-moment correlation coefficients will be calculated to determine the relationship of total dietary scores to reading and mathematics achievement. In addition, sugar consumption patterns will be compared and information about classroom nutrition teaching will be collected in order to determine whether classroom instruction influences food choices.
Duration: July 1978-September 1979.

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42-CE-3 **AN INVESTIGATION OF POSSIBLE INTERVENTIONS TO HALT THE DECLINE OF BREAST FEEDING IN THE YEMEN ARAB REPUBLIC**

Investigator(s): Theodore H. Greiner, M.A.Ed., M.S., Doctoral Candidate, and Michael C. Latham, M.D., M.P.H., Professor, International Nutrition, Division of Nutritional Sciences, Cornell University, Ithaca, New York 14853. Phone: (607) 256-3041.
Purpose: To select appropriate methods of intervention; and to determine whether they will have an impact on the incidence or duration of breast feeding compared to control populations.
Subjects: Depending on the kinds of intervention selected, subjects may include health professionals in rural and urban settings who are mothers – especially women pregnant for the first time.
Methods: An analysis will be made of the causes in the decline in breast feeding. Intervention approaches will be selected. Interviews will be conducted with target populations. A baseline study will be made of infant feeding knowledge and attitudes and practices in selected pilot areas. Then the intervention programs will be organized and implemented and pilot areas will be resurveyed in order to compare experimental and control areas to evaluate the programs' effectiveness. Special attention will be given (1) to the impact of changing social and economic conditions – especially women's roles in society and market labor employment, and (2) to the impact of modern medical care and of the marketing and promotion of commercial infant foods.
Duration: August 1978-December 1981.
Cooperating group(s): (1) Rockefeller Foundation. (2) Cornell University, Center for International Studies.

42-CE-4 **DIMENSIONS OF PRESCHOOL CHILDREN'S FOOD PREFERENCES**

Investigator(s): Leann Lipps Birch, Ph.D., Assistant Professor, Department of Human Development and Family Ecology, 209 Child Development Laboratory, University of Illinois, 1105 West Nevada Street, Urbana-Champaign, Illinois 61801. Phone: (217) 333-6517.
Purpose: To investigate factors influencing the development, expression, and modification of preschool children's food preferences; and to produce data on dimensions of foods that are salient for young children in making preference judgments.
Subjects: Approximately 100 preschool children, ages 3 to 5 years 6 months, in three separate samples. Children are from middle class Caucasian, Oriental, and Black ethnic groups.
Methods: This research differs from earlier work in the area because the children were asked directly about their preferences rather than relying on maternal report or consumption data for this information. Children were presented with the foods in question and asked to taste, label, and rank order the foods. Data will be analyzed using multidimensional scaling techniques.
Findings: Using several different sets of foods, two dimensions have repeatedly emerged: familiarity and sweetness. These two dimensions appear to be very salient for young children. Preferences were found to be excellent predictors of consumption in a self-selection setting.
Duration: January 1977-continuing.
Cooperating group(s): U.S. Department of Agriculture, Hatch Grant.
Publications: Birch, L.L. Dimensions of preschool children's food preferences. ***Journal of Nutrition Education*** (in press).

42-CE-5 **BAYLOR COLLEGE OF MEDICINE SPRING HIGH SOUTH STUDY**

Investigator(s): Robert E. Roush, Ed.D., Director, Allied Health; and Lynne Scott, M.A., R.D., Co-Principal Investigator, Diet Modification Clinic, Baylor College of Medicine, 1200 Moursund Avenue, Houston, Texas 77025; and Armin D. Weinberg, Ph.D., Associate Director, National Heart and Blood Vessel Research and Demonstration Center, Methodist Hospital, M.S. A701, 6535 Fannin Street, Houston, Texas 77030. Phone: (713) 790-4614.

Purpose: To develop and test the effects of a nutrition education program for parents and students designed to reduce the cardiovascular disease risk factor of high cholesterol levels in the blood.

Subjects: 150 high school sophomores and their parents (total sample: 450).

Methods: Students completed a pretest of cardiovascular disease information and physiological measures of cholesterol level, triglyceride level, blood pressure, etc. They were assigned randomly to four groups that varied as to whether parents received similar instruction or none at all, or to a fifth group that served as a control and received no instruction. After eight lessons, a posttest and measurements were administered. Data were analyzed using t-tests and one-way analysis of covariance.

Findings: Self-instruction was as successful as lectures in communicating heart disease information, with significant gains in information for all groups. Parental involvement made no significant difference in knowledge gain.

Duration: August 1977-December 1978.

Cooperating group(s): (1) Spring Independent School District. (2) Pew Memorial Trust.

Publications: (1) Spiker, C.A. Parent involvement in cardiovascular disease – School health education. ***Health Values,*** 1978, 2(5), 257-262. (2) Weinberg, A.D. Field research in school health education: A case study. American School Health Association presentation, 1978. (3) Laufman, L. Health locus of control and beliefs related to health behavior. American Public Health Association presentation, 1978. (4) Spiker, C.A. Nutrition education for teenagers and parents in a school setting. Poster presentation at the 51st Scientific Sessions, Dallas, Texas, November 1978. (5) Spiker, C.A. Nutrition education for parents and teenagers: Focus on prevention. American Educational Research Association presentation, 1977.

42-CF-1 A CLINICAL STUDY OF THE CARIOSTATIC PROPERTIES OF HIGH AND LOW FLUORIDE ION RELEASE ACIDULATED PHOSPHATE FLUORIDE PRODUCTS

Investigator(s): Bryan Cobb, D.D.S., Resident, Department of Pedodontics, School of Dentistry, University of North Carolina, Chapel Hill, North Carolina 27514. Phone: (919) 966-1161, Ext. 344.

Purpose: To test clinically and to determine if there is a significant difference in clinical caries reduction between high and low fluoride release APF products; and to test the validity and clinical significance of previously determined laboratory data concerning APF products.

Subjects: 365 seventh graders, ages 10 to 15, equally distributed by sex and race in the Lenoir County School System (Lenoir County, North Carolina).

Methods: The participants were divided randomly into treatment and control groups. Following careful toothbrushing to remove all plaque, each participant was examined with a sharp dental explorer under adequate lighting in a portable dental chair. A DMF surface index was used. Following the exam, the participant was given either a topical fluoride treatment with one of the test materials or was given no treatment for control. The examiner was unaware of the nature of the treatment for each subject. Examinations and fluoride treatments were repeated at 6-month intervals for 2 years. In addition, the fluoride products were evaluated as to fluoride ion release by the method of Congleton, Bawden, and Crenshaw to insure fluoride product homogeneity for each treatment period.

Findings: The exams at the first 6th-month reevaluation were essentially inconclusive. There was evidence of a reduction in decay rates in the treatment groups but no significant intergroup difference has been noted.

Duration: November 1977-November 1979.

Cooperating group(s): University of North Carolina School of Dentistry, Graduate Student Research Grant.

42-CF-2 CHILDREN'S ACCEPTANCE OF CARIES PREVENTIVE PROCEDURES

Investigator(s): S. Stephen Kegeles, Ph.D., Professor; and Adrian K. Lund, Ph.D., Assistant Professor, Department of Behavioral Sciences and Community Health, University of Connecticut Health Center, Farmington, Connecticut 06032. Phone: (203) 674-2680.

Purpose: To assess the effects of postcard reminders and action instructions when added to a contingency management procedure for obtaining children's performance of preventive health activities at home on their own recognizance.

Subjects: 447 seventh graders, ages 11 to 13, equally distributed by sex. Half of the children are from the urban area of a middle size city; half are from a relatively affluent suburban setting.

Methods: The subjects were requested to use a fluoridated mouthrinse daily at home for 20 weeks. Mouthrinse was distributed at 2-week intervals in specially designed bottles that inhibited cheating while measuring usage. One of four urban schools and one of four suburban schools were assigned to each of four experimental conditions: (1) Control Group: Children received a slide show which described etiology of tooth decay, the seriousness and prevalence of decay, and the function and efficacy of the fluoride mouthrinse; and small prizes were awarded biweekly for mouthrinse usage with a bonus prize for high utilization during the 20-week period. (2) Postal Reminder Group: Same as the control group, but children received postcards biweekly to remind them to pick up fresh supplies of mouthrinse. (3) Action Instruction Group: Same as control group, but children received special instructions for obtaining parental permission and for integrating the rinsing activity with other daily activities. (4) Postal Reminder/Action Instruction Group: A combination of the conditions (2) and (3). The major dependent variables included percentage of children (1) volunteers, (2) obtaining parental permission, (3) continuing in the program for 20 weeks, and (4) utilizing mouthrinse at a high rate for 20 weeks. The following variables also will be related to the dependent variables: (1) children's perceptions of their susceptibility to tooth decay, the seriousness of decay, and the effectiveness of preventive procedures; (2) children's perceptions of self-determination of outcomes in health and other situations (locus of control perceptions); and (3) children's prior exposure to dental problems, either their own or those of significant others. Each of these variables was measured prior to the introduction to the program.

Duration: July 1977-June 1981.

Cooperating group(s): National Institute of Dental Research; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: (1) Kegeles, S.S.; Lund, A.; and Weisenberg, M. Acceptance by children of a daily home mouthrinse program. ***Social Science and Medicine,*** 1978, 12, 199-209. (2) Lund, A.K. and Kegeles, S.S. Children's preventive dental programs. ***Behavioral Dentistry: Proceedings of the First National Conference,*** Morgantown, West Virginia, October 1977.

42-CF-3 RELIABILITY OF PHOTOGRAMMETRY

Investigator(s): Leslie G. Farkas, M.D., D.Sc., C.Sc., F.R.C.S.(C), Senior Scientist, Research Institute, Hospital for Sick Children, University of Toronto, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8. Phone: 416-597-1500, Ext. 1747.

Purpose: To demonstrate the reliability of measurements taken from life-size photographs.

Subjects: 13 males and 10 females, ages 17 to 21: healthy Canadian Caucasians selected randomly.

Methods: Seventy-one measurements were taken by one person of the subject's head and face using anthropometric methods (linear measurements, assessment of inclinations in the facial profile, etc., and measuring angles). The landmarks were marked on the skin surface in order to ensure accuracy of measurements. Following the direct measurements, the faces, with landmarks, were photographed in frontal and lateral views. The photographs were taken using standard photographic techniques and with the head in the same position as for anthropometric measurements.

Life-size prints in the frontal and lateral views were analyzed anthropometrically by another person (indirect measurements). The data from the direct measurements were compared with the data obtained from both photographs.

Findings: Seventy-one craniofacial measurements were taken directly from the subjects, and 53 of these could be duplicated on the photoprints. Only 17 of the 53 were regarded as reliable and these were mainly vertical measurements of the naso-oral region. Profile inclinations and angles measured on prints differed markedly from those obtained directly.

Duration: May 1978-May 1979.

42-CF-4 GENETIC STUDIES OF CRANIOFACIAL MORPHOLOGY AND GROWTH

Investigator(s): Tasman Brown, M.D.S., D.D.Sc., Department of Restorative Dentistry; and G.C. Townsend, B.D.S., B.Sc.Dent., Ph.D., Department of Oral Biology, University of Adelaide, North Terrace, Adelaide, South Australia 5000.

Purpose: To estimate the relative importance of genes and environment to the phenotypic variability of selected craniofacial features observed in a geographically isolated human population; to explore methods for analyzing shape similarities between relatives with respect to the craniofacial structures; and to investigate familial associations and genetic contributions to the observed patterns of growth in the craniofacial structures and selected body measurements.

Subjects: 466 male and female Australian aboriginals from Yuendumu, Northern Territory of Australia studied longitudinally from ages 6 to 18.

Methods: Analyses will be carried out on metric data derived from the records of the growth study. Direct measurements of selected general body and craniofacial structures were recorded in the field at Yuendumu for each subject enrolled in the growth study. These data, which are encoded onto computer files, include measurements such as height, weight, radius length, knee diameter, wrist diameter, head length, head breadth, head height, and other measurements of the face. Preliminary analyses already completed have provided group statistics in terms of the means and variability for each variable. In addition, the growth patterns have been described using estimates of annual growth increments and annual growth velocities. These somatometric data will be subjected to genetic analysis after placing the subjects in various groupings of full-siblings and half-siblings. Indirect measurements of tooth size have also been obtained from dental casts using a system of semiautomatic measurement and recording to minimize observer error. The measurement and computer study methods are based on the use of modified helios callipers fitted with a high precision linear potentiometer. Electrical resistances are transformed by analogue-digital devices to metric values which then are entered on the computer. A similar technique has been developed to obtain coordinate measurements from head roentgenograms. This technique allows readily identifiable reference points to be ***digitized*** in the form of X and Y coordinates from which any specified linear and angular variables can be obtained by simple geometric principles. Measurement data obtained by the above methods and data derived from intermediate computer analysis, such as growth increments and velocities, will be used in the proposed genetic studies. The principal method of analysis will be hierarchic or nested analysis of variance, particularly suited for the partitioning of phenotypic variance into genetic and environmental components. This method allows the phenotypic variance to be divided into a component between fathers, a component between mothers within fathers, and a component between offspring within mothers. This analysis is possible in the form described only if half-sibling data are available; i.e., measurements from brothers or sisters with the same father but different mothers. From the analysis of variance, estimates of heritability can be derived; i.e., the proportion of total phenotypic variance due to additive genetic effects. The analysis of variance methods will be complemented by correlation analyses in order to compare observed sibling correlations with those expected assuming various modes of inheritance. Computer programs have been coded by the investigators for these analyses. (See also Study 42-AA-23 in this issue.)

Findings: Initial results have confirmed a polygenic mode of inheritance for tooth size in the subjects. Heritabilities for tooth size have been estimated.

Duration: 1977-continuing.
Cooperating group(s): (1) University of Adelaide, Research Grants. (2) National Institute of Dental Research; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Townsend, G.C. and Brown, T. Heritability of permanent tooth size. ***American Journal of Physical Anthropology*** (in press). (2) Margetts, B. and Brown, T. Crown diameters of the deciduous teeth in Australian aboriginals. ***American Journal of Physical Anthropology,*** 1978, 48, 493-502. (3) Townsend, G.C. and Brown, T. Inheritance of tooth size in Australian aboriginals. ***American Journal of Physical Anthropology,*** 1978, 48, 305-314.

42-CG-1 **VESTIBULAR SELF-STIMULATION (BODY ROCKING, HEAD BANGING) DURING INFANCY: RELATION TO MOTOR DEVELOPMENT AND VESTIBULAR FUNCTIONING**

Investigator(s): Constance W. Atwell, Ph.D., Professor, Department of Psychology, Pitzer College, Claremont, California 91711. Phone: (714) 621-8000; and Edward M. Ornitz, M.D., Professor of Psychiatry, Center for the Health Sciences, University of California, Los Angeles, California 90024.
Purpose: To study motor coordination and balance in preschoolers who have a history of body rocking or head banging during infancy; and to assess vestibular functioning in self-stimulating infants.
Subjects: 20 normal infants, ages 9 to 13 months, who are habitual body rockers; and 20 matched control infants, who are not body rockers. 20 children, ages 4 to 6, with a history of body rocking during infancy; and 20 children, ages 4 to 6, with a history of head banging; and 20 matched controls with no history of self-stimulation during infancy.
Methods: Normal children were obtained from the Kaiser Pediatric Clinic for the motor development study. The children will be tested with subtests of the Lincoln-Oseretsky Scale and with a newly devised scale of motor coordination and balance, which has been standardized for this age group. Testing will be by two trained observers, one of whom is unaware of the self-stimulatory history of the child. In the vestibular nystagmus study, infants will be rotated in a specially designed chair which is controlled with respect to rate of acceleration and constant velocity. Infants are accelerated at $10°/sec^2$ for 18 seconds and rotated at a constant velocity of 180°/sec for 2 minutes. Rotation is done in complete darkness and monitored by infrared TV. Comparisons of various parameters of vestibular nystagmus elicited by the rotation will be made for self-stimulating and nonself-stimulating infants. D.C. recordings of eye movements (electro-oculogram) are scored by independent evaluators and analyzed by computer program.
Findings: A questionnaire study (the first part of the research) has demonstrated that infants, who habitually rock or engage in head banging (clinically normal otherwise), achieve motor milestones earlier than other infants. This is being followed up with the older children.
Duration: June 1976-May 1979.
Cooperating group(s): (1) William T. Grant Foundation. (2) National Institute for Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Ornitz, E.M. ***et al.*** The maturation of vestibular nystagmus in infancy and childhood (submitted for publication). (2) Sallustro, F. and Atwell, C.W. Body rocking, head banging, and head rolling in normal infants. ***Journal of Pediatrics*** (in press). (3) Atwell, C.W.; Ornitz, E.M.; and Hartmann, E.E. Development of vestibular nystagmus in infants and children. ***Neuroscience Abstracts,*** 1976, 2, 1056 (#1524).

42-CH-1 VISUAL PROCESSES IN SPEECH PERCEPTION

Investigator(s): Harry McGurk, Ph.D., Senior Lecturer; and John MacDonald, M.Sc., Research Fellow, Department of Psychology, University of Surrey, Guildford, Surrey, England GU2 5XH. Phone: Guildford 71281.

Purpose: To investigate the role of vision, particularly with respect to the perception of lip movements, in the development of speech perception.

Subjects: Large numbers of infants and girls and boys, ages 6 months to 8 years.

Methods: The habituation paradigm was employed with young infants to assess visual and auditory perception of speech stimuli. Older subjects were shown films that depict synchronous/asynchronous speech stimuli (i.e., talking heads). Subjects were asked to report on their auditory perception of speech stimuli under various conditions of synchrony between lips and voices.

Findings: By at least age 2, visual processes play a profound part in the auditory perception of speech. Investigators are still trying to determine whether this is a developmental phenomenon or whether the young infant's auditory and visual systems are already coordinated at birth.

Duration: April 1976-continuing.

Cooperating group(s): Leverhulme Trust Fund.

Publications: (1) McGurk, H. ***et al.*** Auditory-visual coordination in neonates. ***Child Development,*** 1977, 48, 138-143. (2) McGurk, H. and MacDonald, J. Hearing lips and seeing voices. ***Nature,*** December 1976, 264, 5588, 746-748.

42-CH-2 DEVELOPMENT OF PHONETIC PERCEPTION AND PRODUCTION

Investigator(s): Winifred Strange, Ph.D., Research Associate, Department of Psychology; and Patricia Broen, Ph.D., Associate Professor, Department of Communication Disorders, 205 Elliott Hall, University of Minnesota, Minneapolis, Minnesota 55455. Phone: (612) 373-5302.

Purpose: To describe the development of phonetic perception of approximant consonants (r, l, y, w) by normal children; to investigate the relationship between perceptual and articulatory development in normal children; and to explore possible perceptual deficits in children with articulation disorders.

Subjects: 20 normal children, ages 2.11 to 3.5; 6 normal children, ages 4.0 to 4.5; and 6 children with articulation disorders who were referred for therapy.

Methods: Perception of three contrasts: rake-lake, wake-rake, and wake-bake (control) were tested using real speech and computer-generated synthetic speech tokens. The task was a two-choice picture pointing task. Articulation was assessed using both an elicitation test (Templin-Darley) and an imitative test. Subjects were tested extensively in four to five, 1-hour sessions. Attention was maintained by behavioral control techniques.

Findings: Normal 3- and 4-year olds perceive contrasts between initial approximants /r/, /y/, /l/, and /w/ whether or not they have mastered the articulation of these phonemes. However, children who substitute /w/ for /r/ or produce distorted /r/ and /l/ make more errors in perception than children who produce /r/ and /l/ without errors.

Duration: September 1977-August 1980.

Cooperating group(s): (1) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: Strange, W. and Broen, P.A. Perception and production of approximant consonants by three-year olds: A first study. In G. Yeni-Komshian, J.F. Kavanagh, and C.A. Ferguson (Eds.), ***Child phonology: Perception and production.*** New York: Academic Press (in press).

Intellectual

42-DA-1 INTELLECTUAL PERFORMANCE OF CHILDREN IN THE LIGHT OF SOCIOCULTURAL FACTORS

Investigator(s): Magdalena Sokolowska, Ph.D., Professor and Director, Department of Social Aspects of Health; and Anna Firkowska-Mankiewicz, Ph.D., Associate Professor, Institute of Philosophy and Sociology, Polish Academy of Sciences, 72 Nowy Świat, Warsaw, Poland 00-330. Phone: 267642.

Purpose: Phase I: To examine the importance of urban, school, and socioeconomic factors for children's intellectual performance. Phase II: To identify the family factors stimulating or restraining children's intellectual functioning.

Subjects: Phase I: 14,238 Warsaw children born in 1963 (the whole birth cohort). Phase II: 1,171 Warsaw children born in 1963 (unproportionate stratified sample).

Methods: During Phase I, the whole birth cohort of children born in 1963 and living in Warsaw in 1974 was given the Raven Progressive Matrices Test, Choynowski Word Knowledge Test, and the Grzywak-Kaczyńska Arithmetic Test. Information was collected on the sociodemographic characteristics of families and on characteristics of schools and city districts. Multiple regression analysis has been used to establish the relative importance of school, district, and socioeconomic status factors on the children's mental performance. During Phase II, an intensive family study was made of a sample of children identified and selected from Phase I on the basis of the Raven Test. The sample is unproportionally stratified to cover all cases scoring less than 11 and more than 53 in rough scores on Raven and to undersample the mode. A representative sample of about 200 children was also available. The Phase II investigation consists of (1) parents' interview at home, (2) a psychometric evaluation of children in schools, (3) clinical and neurological examinations in school health clinics, and (4) special referral centers according to the indication for referral. The family questionnaire focuses on the child's social history and the characteristics of the family environment; i.e., family housing conditions and resources, family lifestyle and leisure activities, cultural participation, division of labor, family integration and interaction, family pathology, etc. Psychological functioning was measured using the Wechsler Intelligence Scale for Children, the Vineland Scale of Social Maturity, the Bender-Koppitz Test (an index of emotionality), the Stambak Test (eventual deficiencies in audible analysis), a reading test, two short tests constructed by a research team – the self-evaluation test and the motivation for learning test. Detailed pediatric and neurological examinations were conducted with a short psychiatric evaluation and supplementary laryngologic, oculistic, EEG, and other examinations if necessary.

Findings: Mental performance was unrelated either to school or district factors. It was related to parental occupation and education in a strong and regular gradient.

Duration: 1974-1979.

Cooperating group(s): U.S. Department of Health, Education, and Welfare.

Publications: Firkowska, A. ***et al.*** Cognitive development and social policy. The contribution of parental occupation and education to mental performance in 11-year olds in Warsaw. ***Science,*** 1978, 200, 1357-1362.

42-DB-1 TWO CASE STUDIES IN COGNITIVE DEVELOPMENT: A 9-YEAR REPORT (1969-1978)

Investigator(s): Doreen R. Steg, Ph.D., Professor; Anthony D'Annunzio, Ed.D., Associate Professor, Cheryl Fox, M.S., Research Specialist; and Marilyn Gootman, Ph.D., Research Assistant, Department of Human Behavior and Development, Nesbitt College, Drexel University, 33rd and Market Streets, Philadelphia, Pennsylvania 19104. Phone: (215) 895-2000.

Purpose: To assess the effectiveness of SCILS early childhood program (Self-Controlled Interactive Learning Systems) through a careful examination of the progress of individual children.

Subjects: The two most difficult children encountered in the SCILS Program during the last 11 years, Cases A and T.

Methods: Anecdotal and test data are provided on the two most difficult children, Cases "A" and "T," at the time of their entry into the SCILS Program, at approximately age 3. Records evaluation revealed A and T to be extremely inadequate learners: their intellectual functioning was retarded severely, their psycholinguistic abilities impoverished, and their visual and perceptual skills were underdeveloped. In order to assess the effectiveness of SCILS, these preintervention records were compared with postanecdotal and test data, which included comparative test scores on: the Wechsler Intelligence Scale for Children (WISC), Wide Range Arithmetic Test (WRAT), Spache Diagnostic Reading Scale, and Wide Range Reading Test (WRRT).

Findings: "A" has continued to gain in IQ (during 1977 her WISC score was 110 – high normal) and make progress in achievement. For example, WRAT grade scores improved from 2.8 in 1974 to 4.2 in 1975, 5.3 in 1976, and 5.9 in 1977. Word recognition scores (WRRT) improved from 3.8 in 1974 to 4.5 in 1975, 5.5 in 1976, 6.8 in 1977, and 7.0 in 1978. Instructional level in reading comprehension improved from grade 2 in 1974 to grade 3 in 1975 and to grade 4 in 1976. Her current Spache instructional level is 6.5; independent level, 7.5. "A" is at or above grade expectation in all the major indices of achievement. "T" continues to gain in IQ (during 1977 his WISC score was 111 – high normal). His present WRRT score is 10.1 grade level. Instructional level on the Spache is currently 6.5; independent level, 7.5. The children exemplify what might occur if early intervention is successful: anticipated deceleration is halted and the child begins to learn. Once effective learning had occurred, these children began to rely increasingly on their cognitive processes and less and less on negative adaptation.

Duration: 1969-1978.

Cooperating group(s): Bernard van Leer Foundation.

Publications: Steg, D.R. ***et al.*** Deviation-amplifying processes and individual human growth and behavior. In J. Rose (Ed.), ***Advances in cybernetics and systems.*** Proceedings of the International Congress of Cybernetics and Systems, Oxford, 1972. New York: Gordon and Breach Science Editors, 1976 (Vol. III).

42-DB-2 CONSERVATION OF NUMBER, MASS, AND CONTINUOUS QUANTITY IN NAVAJO CHILDREN

Investigator(s): Sandra J. Odell, Ph.D., Program Specialist, Navajo Teacher Education Development Program, Department of Elementary Education, Onate 212, University of New Mexico, Albuquerque, New Mexico 87131. Phone: (505) 277-6165.

Purpose: To initiate a description of the cognitive characteristics of Navajo children.

Subjects: 12 girls and 12 boys at each age level: 5, 6, 7, 9, 11, and 13 were drawn from Bureau of Indian Affairs schools in isolated communities on the Navajo Reservation. They are full-blooded Navajos and are first language Navajo speakers.

Methods: In order to initiate a description of the cognitive characteristics of Navajo children, the present research investigates the performance of Navajo children on Piagetian conservation tasks of number, mass, and continuous quantity. Quantitative characteristics, with respect to sex and age, are being studied as well as the qualitative progression of difficulty in achieving conservation of number, mass, and continuous quantity. Specifically, Navajo children are administered Piagetian conservation tasks of number, mass, and continuous quantity by five Navajo research assistants. The tasks are administered under the supervision of the experimenter with verbatim accounts of the tasks administrations recorded on cassette tapes. The verbatim records are subsequently reviewed, translated, and analyzed by the experimenter and assistants. Each conservation task consists of a standard object and an equivalent object that can be made to vary quantitatively and perceptually (variable object). The materials for these objects in the number, mass, and continuous quantity tasks are, respectively: 10 plastic disks, modeling clay, and water. The procedure for each task is to present the subject with the standard object and variable object in its equivalent form, and have the subject judge the quantitative equivalence of the two objects. Next, the variable

object is transformed perceptually, but not quantitatively, and the subject again judges the quantitative equivalence of the objects. Subjects who make correct judgments are classified as conservers.
Findings: The incidence of conservation is low on the conservation tasks administered (71.4% of the subjects have been classified as nonconservers). Conservation is age related. Subjects younger than 9 years have not conserved. At older ages there is a significant monotonic increase in conservation. Conservation is task related. More conservation has occurred on the number task than on either of the other tasks. These data, obtained so far in Navajo children, agree with the Piagetian thesis that all children develop cognitively according to a predetermined order of stages. The low incidence of conservation among the Navajo children suggests a considerable ***time lag*** in cognitive development for this group as compared to the dominant Western culture. This time lag is largely attributable to Navajo-cultural factors, which suggests that Piagetian theory may be ethnocentric.
Duration: Spring 1978-Spring 1979.

42-DC-1 ELABORATION AND MEMORY DEVELOPMENT IN ADOLESCENCE

Investigator(s): William D. Rohwer, Jr., Ph.D., Professor, Department of Education, University of California, Berkeley, California 94720. Phone: (415) 642-7980.
Purpose: To verify certain propositions that stem from an elaborative conception of the character of memory units, memory organization, and memory development; and to evaluate the hypothesis that age related differences in memory performance are caused by corresponding differences in two factors: elaborative propensity and event repertoire.
Subjects: Approximately 200 public school students, ages 6 to 17.
Methods: In the project, the role of propensity will be assessed by manipulating either instructions or presentation conditions, and the importance of repertoire will be determined by manipulating the elaborative difficulty of the information to be learned. These manipulations will be made in connection with the performance of subjects on two classes of tasks. Memory for inter-item information will be studied by means of the methods of paired associates, free recall, and cued recall, in which elaborative difficulty will be varied with reference to normative data collected from widely different age groups. Developmental differences in intersentence memory, across the same age range, will be indexed by performance on prose learning tasks in which difficulty will be varied in terms of paragraph structure, and propensity varied by manipulations of context and instructions.
Duration: July 1978-September 1979.
Cooperating group(s): Spencer Foundation, Chicago, Illinois.

42-DC-2 EFFECTS OF TRAINING IN THE USE OF AN ORGANIZING STRATEGY WITH YOUNG INNER CITY CHILDREN

Investigator(s): Davida R. Schuman, Ph.D., Assistant Professor, Department of Communication Sciences, Kean College of New Jersey, Union, New Jersey 07083; and Juliette Relihan, Ph.D., Greer-Woodycrest Children's Services, Hope Farm, Millbrook, New York 12545.
Purpose: To investigate the development of high level classification skills among young inner city children by using an organizing strategy.
Subjects: 20 girls and 20 boys in 1st and 2nd grades from an inner New York City school. The subjects, representatives of a low income community, were selected from those who had been successful on baseline performance and vocabulary.
Methods: The study focused on exploring the viability of training children in organizational strategies to help them with class inclusion problems. The study predicates that young children's failure to solve high level classification problems is caused by memory storage overload rather than by the logical structure of such tasks. The subjects were given a test, based on the Scalogram

Analysis of Classificatory Behavior (Kofsky, 1966), to determine their exact classification level; and a vocabulary pretest to determine their familiarity with the objects and words used. The tests were selected for baseline because they explain the boundaries and contents of isolated classes, knowledge of which was considered essential for the study. Children who successfully completed the first three tests of the classification scale (resemblance, consistent, and exhaustive sorting) were eligible to participate, and they were assigned randomly to experimental and control groups. A curriculum developed previously to be used with middle class, rural children (Relihan, 1976) was employed to provide the subjects with one strategy to increase the efficient functioning of their short-term memory. In four consecutive meetings, subjects were provided with an organizing strategy to help them work with the class inclusion problem and were trained individually for 15 to 20 minutes a day. The control group curriculum provided direct training in classification skills but did not use specific organizational strategy. An effort was made to provide the experimental children with an organizing strategy that could be transferred from one situation to another. After four sessions, each child was posttested using a parallel form of the pretest, and 4 to 6 weeks later, was tested for retention using the pretest again.

Findings: Seventeen percent of the control and 71% of the experimental 1st graders advanced beyond their pretest level. Second grade control group advancement was 33%; experimental group, 67%. Four to 6 weeks later, retention test scores showed that 13% of the controls and 58% of the experimentals in 1st grade had maintained their higher level performance. Maintenance rate was 47% for control and 86% for experimental 2nd graders. Chi-square analyses of the test data indicate that the observed frequencies of passing responses of both groups differed significantly at the .01 level. Experimentals performed significantly better on the three higher level classification tasks than did the controls. The results indicate that the organizing strategy was an effective aid for the experimental training group, permitting them to assign their short-term memory resources to the other operations required of class inclusion.

Duration: January 1978-completed.

42-DD-1 DEVELOPMENT OF A CONSTRUCT VALID PERCEPTUAL-PROCESSING DIAGNOSTIC BATTERY

Investigator(s): Lawrence E. Melamed, Ph.D., Associate Professor, Department of Psychology, and Research Director, Motor Development Center, Kent State University, Kent, Ohio 44242. Phone: (216) 672-2335.

Purpose: To produce a diagnostic instrument, as a prelude to programming intervention, that is construct valid (i.e., that is based on current constructs and findings in the areas of perceptual processing and neuropsychology) for learning disabled (LD) and neurologically impaired children.

Subjects: Boys and girls, ages 5 to 12, including LD and neurologically impaired children.

Methods: The investigators suggest that one cannot simply diagnose perceptual disorders and visual-motor deficiencies, etc. via an arbitrary taxonomy of perceptual or perceptual-motor skills. The design of the diagnostic battery rests on the assumption that perceptual processing can be viewed as a hierarchical (stage) process in which activity at any stage can be modulated by inputs from earlier or higher stages. Three instruments have reached the stage of development where they are being evaluated and further developed in field trials. They are also being used in research attempting to determine what aspects of perceptual processing are being tapped by certain of the widely used perceptual batteries. These three instruments are for evaluating the status of skills involved in form perception and form production. The Contour Interaction Test examines the status of the child's initial sensory encoding capacities for form contours, particularly, inhibitory interactions from adjacent pattern contours. The Visual Feature Detection Test and the Visual Feature Reproduction Test involve the detection and/or ability to copy accurately forms that differ in number, type, and configuration of form parameters. The two tests deal with stages in form perception that are subsequent to sensory encoding and involve the synthesizing and elaboration of the form components. Memory requirements are not elaborate, aside from plans for reproducing certain form features. The research consists of obtaining performance data on the

three tests from children from public schools and an LD intervention program. Also, data are being collected on the same students using the VMI Test and a number of standard achievement tests. The data will be used to determine the concurrent and predictive validity of the instruments. An analysis of the patterns of individual test performance will be used to evaluate the refinements that can be made in the tests. The test instruments are at an early stage of development and are experimental in content and approach.
Duration: May 1978-May 1980.
Cooperating group(s): Cleveland Foundation.
Publications: Information is available from the investigator.

42-DD-2 CONCURRENT VALIDITY OF THE QUICK TEST

Investigator(s): Nick A. DeFilippis, Ph.D., Assistant Professor; and Kathleen Fulmer, B.A., Graduate Student, Psychology Department, Augusta College, Augusta, Georgia 30904. Phone: (404) 828-3013.
Purpose: To determine the relationship of the Quick Test and the Wechsler Intelligence Scale for Children-Revised (WISC-R) intelligence quotients in normal school age children; and to assess the effects of age and level of intelligence on this relationship.
Subjects: 120 boys and girls in grades 1, 4, and 7 of a parochial school in a community population of 275,000.
Methods: The Quick Test and WISC-R were administered to 120 grade school children. A factorial design was implemented to assess the effects of age and level of IQ (WISC-R) on the relationship of the two tests. The range of Quick Test IQs for each level of WISC-R IQ at each age will be determined.
Findings: The Quick Test and WISC-R intelligence quotients are highly correlated at all ages. However, bright 1st graders score consistently low on the Quick Test. The method of determining guessing for 1st graders is questioned.
Duration: June 1978-March 1979.

42-DE-1 MEMORY AND ATTENTION IN INFORMATION PROCESSING: ADVANTAGED VS. DISADVANTAGED

Investigator(s): Vladimir Pishkin, Ph.D., Chief Research Psychologist, Professor of Psychiatry, VA Hospital and Health Sciences Center, University of Oklahoma, 921 N.E. 13th Street, Oklahoma City, Oklahoma 73104. Phone: (405) 272-9876, Ext. 390.
Purpose: To evaluate the concept identification performance of advantaged and disadvantaged preschool children; and to assess the role of irrelevant information and the related attentional and memory requirements of the task.
Subjects: 180 boys, ages 4 and 5, half in Head Start classes in a low socioeconomic area and half in private schools in a high socioeconomic area. The Head Start children are black, the private school children are white, and the evaluator is a white female.
Methods: The task is an individually administered two-category card sorting task with one relevant dimension. The subject's task is to sort a deck of 96 stimulus cards into the two slots of a wood tray. The subject is informed whether he is right or wrong for each choice. When wrong, he is instructed to place the card in the correct slot before continuing. In the no cue condition, subjects place the cards face down in the correct slot; in the specific cue condition, they place cards face up. Only one past correct instance is visible within each category. In the general cue condition, the cards are placed down, and subjects are shown cards depicting the levels of the relevant dimension as an example of one of the ways the cards will differ. For example, when form is the relevant dimension, cards with a black outline of a square and black outline of a triangle are presented. No verbal labels of these attribute cards are provided by the evaluator, and the cards remain face up on the table near the sorting tray throughout the task.

Findings: It appears that error rate will increase with increasing complexity of information. There is a trend for the disadvantaged children to utilize memory cues more effectively. Also, disadvantaged subjects appear to perform better when form is the relevant dimension.
Duration: June 1977-December 1979.
Cooperating group(s): VA Medical Research and Development Funds.
Publications: (1) Pishkin, V. and Rasmussen, E.A. Attention and memory cues in concept learning as a function of task complexity and age. ***Memory and Cognition,*** 1974, 2, 349-352. (2) Pishkin, V. ***et al.*** Age, sex, amount and type of memory information in concept learning. ***Journal of Experimental Psychology,*** 1967, 73, 121-124. (3) Pishkin, V. and Wolfgang, A. Number and type of available instances in concept learning. ***Journal of Experimental Psychology,*** 1965, 69, 5-8.

42-DE-2 DEVELOPMENT OF A PHILOSOPHICAL WORLDVIEW IN ADOLESCENCE

Investigator(s): John M. Broughton, Ph.D., Assistant Professor, Departments of Psychology and Education, Teachers College, Columbia University, New York, New York 10027. Phone: (212) 678-3884.
Purpose: To identify sequential organizations of broad philosophical concepts in the reasoning of adolescents; to determine whether development in this domain takes the form of sequential stages, ordered types, or divergent paths of individual progress; and to explore the relation of philosophic development to moral, logical, social, and religious development.
Subjects: 36 middle class Boston suburbanites of predominantly Jewish and Irish ethnicity: four males and four females, ages 10, 14, and 18; and three males and three females, ages 22 and 26, studied over 4 years.
Methods: The Broughton Interview, on concepts of self, mind, knowledge, truth, and reality, is administered in a semistructured manner. Responses are probed with further questions (following Piaget's ***critical exploratory method***). The structures of reasoning are inferred using the Weberian method for the construction of ideal typologies (following Kohlberg's work). The sequence of structures appearing is being defined through a longitudinal follow-up (1973, 1975, 1977), and with references to progress of each individual along other established developmental dimensions (e.g., moral judgment stages, logico-mathematical stages). The role of adolescent philosophy in a broader cognitive and action context is being studied by using an Erikson-type interview, and through an interview devised by the author to explore concepts of work, class, politics, ideology, and religion. It is hoped that eventually it will be possible to apply the dialogue analysis methods of Berkowitz, Gibbs, and Broughton to the analysis of ***philosophic dialogue*** between adolescents. This process is expected to mediate the progressive development of sophisticated world views and the ability to interconnect materialist and idealist philosophies.
Findings: Some identifiable and recurrent structures of adolescent philosophy have already been characterized. In general, a predualistic childhood phase appears to give way to a dualistic philosophy in adolescence (separating mind and body, reality and appearance), which is mediated, if not resolved, in adulthood.
Duration: 1973-1980.
Cooperating group(s): Spencer Foundation.
Publications: (1) Broughton, J.M. and Freeman-Moir, D.J. (Eds.) ***The foundations of cognitive-developmental theory.*** New York: Johnson-Ablex (in press). (2) Berkowitz, M.W.; Gibbs, J.C.; and Broughton, J.M. Peer dialogue and moral development acceleration. In ***Proceedings of the 7th Annual Meeting of the Society for Piaget and the Helping Professions.*** University of Southern California (in press). (3) Broughton, J.M. and Zahaykevich, M. Personality and ideology in ego development. In V. Trinh van Thao (Ed.), ***La Dialectique d'Aujourd'hui.*** Paris: Anthropos (in press). (4) Broughton, J.M. The development of mind/body concepts. In R.W. Rieber (Ed.), ***Mind and Body.*** New York: Academic Press (in press). (5) Broughton, J.M. The limits of formal thought. In R. Mosher (Ed.), ***Adolescent education.*** Berkeley: McCutcheon Publishing Company (in press). (6) Broughton, J.M. Towards a developmental psychology of metaphysics and episte-

mology. In W. Damon (Ed.), ***Social cognition.*** San Francisco: Jossey-Bass (in press). (7) Broughton, J.M. Dialectics and moral development ideology. In P. Scharf (Ed.), ***Readings in moral education.*** New York: Winston, 1978. (8) Broughton, J.M. The cognitive-developmental approach to morality. ***Journal of Moral Education,*** 1978, I(2), 81-96.

42-DF-1 PROBLEM SOLVING IN YOUNG CHILDREN

Investigator(s): Sara W. Lundsteen, Ph.D., Professor, Department of Education, North Texas State University, Denton, Texas 76203. Phone: (817) 788-2231.
Purpose: To understand the nature of creative problem solving, especially involving divergent thinking; to investigate approaches that may be used to educate young children, which will foster the development of creative problem solving; and to examine the process of creative problem solving cross-culturally in Sweden and America in three domains: social (affective), cognitive, and aesthetic.
Subjects: Approximately 15 girls and boys, age 6, in each of four Swedish kindergarten classrooms were tested to collect baseline data. Later, a random sample of seven children were chosen from each classroom for more intensive study.
Methods: After 2 weeks of baseline data collection, teachers involved the randomly selected subsample in a pretest discussion stimulated by a puppet with a problem. This videotaped session was transcribed, translated, and analyzed. Two more samples were collected during the year at equally spaced intervals during the intervention stage. These, along with diaries, consultant observations, and some final tasks of problem solving for the three domains furnished the study data. The intervention (which consisted of workshops, monthly conferences, and discussion of the videotapes with the teachers acting as research collaborators) were designed to give the teachers more objective definitions of kinds of problems, alternative strategies, and alternative routes to problem resolutions. Materials consisted, for example, of puppet scripts designed to assist the teachers in fashioning their own problematic episodes from books for young children, activity at centers for individuals and pairs, etc. An attempt will be made to develop models for frameworks of problem solving in the Swedish schools and to compare them with reflective models of what actually occurs before and after interventions in American kindergartens.
Duration: September 1977-August 1978.
Publications: Lundsteen, S.W. ***Children learn to communicate.*** Englewood Cliffs, New Jersey: Prentice-Hall, 1976.

42-DF-2 EVALUATION OF SCIENTIFIC REASONING ABILITY IN NATURALISTIC AND LABORATORY SETTINGS

Investigator(s): W.M. Laetsch, Ph.D., Director; and Marcia C. Linn, Ph.D., Research Psychologist, Lawrence Hall of Science, University of California, Berkeley, California 94720. Phone: (415) 642-3679.
Purpose: To investigate the effects of naturalistic and laboratory contexts on adolescents' logical reasoning ability; and to examine the specific factors that may cause differential success in controlling variables tasks: (1) the subjects' preconceptions about task variables and variable saliency, (2) the subjects' previous experience with task context, and (3) the role of other abilities such as cognitive style and processing capacity.
Subjects: 900 girls and boys, in grades 7, 9, and 11, drawn from three schools in economically diverse areas: a school from a semirural working class community; a school from a racially mixed, middle class community; and a school from an upper middle class area.
Methods: Laboratory and naturalistic tasks that require a controlling variables strategy for successful performance will be administered to groups and as interviews using a design appropriate for correlational analysis. Pilot study findings suggest that students demonstrate controlling variables

strategies on some tasks but not on others. This study will investigate what task variables cause such differential performance. Student responses will be analyzed relevant to the problem context and preconceptions about the task variables. In the first series of experiments, the generality of logical reasoning ability across different problem contexts will be established. Naturalistic tasks will include determining how to catch fish or what causes an allergy. Laboratory tasks will be similar to those used by Inhelder and Piaget. Subsequent studies will investigate the relative importance of various task factors. Factors such as problem solving strategy, preconceptions about variables, or variable saliency will be manipulated experimentally. Implications for understanding what develops during adolescence and for designing science curricula will be considered.

Findings: Research to date suggests that ability to perform laboratory and naturalistic tasks is dependent on previous experiences – planned research will clarify this finding. Examination of the correlates of formal thought suggests that the formal thought construct is not well defined. Relationships between formal thought, fluid ability, and field dependence/independence require scrutiny.

Duration: July 1978-July 1980.

Cooperating group(s): National Science Foundation, Research in Science Education.

Publications: (1) Linn, M.C. Cognitive style, training and formal thought. ***Child Development*** (in press). (2) Pulos, S.M. and Linn, M.C. Pitfalls and pendulums. ***Formal Operator,*** 1978, 1(2), 9-11. (3) Linn, M.C. Formal operations: Construct or conglomerate. ***Formal Operator,*** 1978, 1(4), 2-4. (4) A paper presented at the Western Regional Meeting of the Society for Research in Child Development, San Francisco, 1977: Pulos, S.M. and Linn, M.C. Inconsistencies in performance across formal tasks. (5) Pulos, S.M. and Linn, M.C. Formal operations: Fact or artifact. ***Proceedings of the Eighth Annual UAP-USC Conference on Piaget and the Helping Professions,*** 1977. (6) Linn, M.C. Adolescence: Disease, disorder or disaster. Book review of Ausubel, D.P. ***et al. Theory and problems of adolescent development.*** 2nd Edition. New York: Grune and Stratton, 1977; and ***Contemporary Psychology*** (in press).

42-DG-1 PERCEPTION AND COGNITION IN THE OBJECT CONCEPT

Investigator(s): Karen Simoneau, Ph.D., Professor, and Thérèse Gouin Decarie, Ph.D., Professor, Department of Psychology, University of Montreal, P.O. Box 6128, Montreal, Quebec, Canada H3C 3J7. Phone: (514) 343-6494.

Purpose: To determine the age of acquisition of ***perceptual*** permanence and the effect of training in the coordination of schemes and perceptual permanence on object permanence behavior.

Subjects: 45 infants (divided into three groups of eight males and seven females), seen between ages 3 and 4 months, 12 of whom were also seen at age 5 months.

Methods: Tests of object permanence (eight items), the coordination of schemes (four items), and a test of perceptual permanence (10 responses) were developed. All subjects were tested on the three tests at ages 3 and 4 months in the university laboratory. Group X (no training) was retested at 5 months. Experimental groups were trained in the home on seven occasions between 3 and 4 months in the coordination of schemes (Group CS) or in perceptual permanence (Group PP). Training in the coordination of schemes encouraged the coordination of the schemes of vision, prehension, and sucking. Training in perceptual permanence encouraged confrontations between movement and position in a visual tracking situation.

Findings: Perceptual permanence, as indicated by an elimination of erroneous tracking responses, was not attained by 5 months of age. The superior performance of Group CS to other groups on object permanence tasks at 4 months supported the Piagetian claim that the object concept develops from the coordination of schemes.

Duration: February 1976-completed.

Cooperating group(s): Université de Montréal, Comité d'Attribution des Fonds Internes de Recherche.

42-DG-2 **DEVELOPMENT OF A PERCEPTUAL-MOTOR RATING SCALE FOR CLASSROOM TEACHERS TO RECORD CHILD BEHAVIOR**

Investigator(s): Reba Garvey, Ed.D.; and Thomas R. Kimball, M.S., Research Associates; Margaret Fleming, Ph.D., Director, Division of Research and Development; and Marilyn J. Fisk, M.S., Supervisor, Elementary Physical Education, Cleveland City Schools, 1830 East Sixth Street, Cleveland, Ohio 44114. Phone: (216) 696-2929.

Purpose: To develop a 28-item rating scale for classroom teachers to record children's behavior, in order to facilitate assessment of the effects of special individualized perceptual-motor training (generally provided by the physical education specialist) upon children's functioning in the regular classroom setting.

Subjects: Pre-post results were available for 601 primary grade children (not tabulated by sex) in three project and two control schools – all eligible for Title I funds. First graders included 193 at project schools and 151 at control schools; the other 257 were approximately equally divided between grades 2 and 3 at two of the project schools.

Methods: Fourteen teachers rated each pupil in October 1976 and May 1977. The methodology included (1) factor analysis: varimax rotation using principal components with iterations; (2) reliability estimation: interitem and item/factor-score correlations; and (3) multivariate ANCOVA: 2 x 5 x 3 nested design, postrating scores as dependent variables, prerating scores as covariates.

Findings: Preliminary statistical analyses of pre-post results yielded four factors, and for 344 first graders, several significant differences between project and control schools and among classes. Additional analyses of results for 601 children (grades 1 through 3) confirmed the emergence of these four dependent factors (intercorrelations of .00 to .08) when full (5-digit) loadings on all items were used, regardless of magnitude. The independence of factors vanished, however, with two attempts at single-digit item loadings – perhaps because several items loaded heavily on more than one factor.

Duration: 1972-continuing.

Cooperating group(s): Ohio Department of Education, Disadvantaged Pupil Program Funds.

Publications: A paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Ontario, Canada, 1978.

42-DG-3 **VISUAL SERIAL SEARCH: A DEVELOPMENTAL PERSPECTIVE**

Investigator(s): S. Viterbo McCarthy, Ph.D., Professor, Department of Psychology, Regis College, 235 Wellesley Street, Weston, Massachusetts 02193. Phone: (617) 893-1820; and Karyn Matonis, Ph.D. Candidate, Research Assistant, Department of Psychology, Tufts University, Medford, Massachusetts 02155.

Purpose: To discover whether a developmental pattern exists in performance on visual search tasks with letters and numbers; and to assess the applicability of past research to younger subjects and/or the time of onset for faster visual serial search of numbers than letters.

Subjects: 166 girls and boys from seven private schools in suburban Massachusetts. Approximately equal numbers of boys and girls were tested at each of four grade levels: 3d, 6th, 9th, and 12th.

Methods: A repeated measurement design was used in a task that involved connecting numbers from 0 to 25 and letters from A to Z in order. The sequence of the tasks was counterbalanced across subjects and a 30-second delay existed between tasks for all subjects. The subjects were tested individually by a female experimenter. Instructions were given (appropriate to grade level) to connect the numbers or letters in order as fast as possible. For each task, time in seconds was recorded from the signal to begin until subjects arrived at the last target. To determine if a significant difference existed between numbers and letters in all grades, t-tests for paired observations were carried out; all t-tests were significant to at least the .05 level; and numbers were searched significantly faster than letters in all cases. To examine the data developmentally, a

difference score was obtained by subtracting numbers time from letters time for all subjects. A simple analysis of variance across grades on the difference scores yielded an $F(3,139) = 6.07$, $p < 001$. After multiple comparisons were made to determine the location of the variance, it was found that the t-test values for 3d vs. 6th grade, as well as 6th vs. 9th grade, were significant at the .05 level, although $p > .05$ for 9th vs. 12th grade.

Findings: A significant difference existed between numbers and letters in all grades, but this difference generally decreased from 3d to 12th grade. At each grade level (i.e., 3d, 6th, 9th, and 12th) visual serial search for numbers was significantly faster than serial search for letters.

Duration: January 1976-June 1979.

Cooperating group(s): National Science Foundation.

Publications: The following references are for adult samples: (1) McCarthy, S.V. Visual serial search across number and letter sets. ***Perceptual and Motor Skills,*** 1976, 43, 311-314. (2) McCarthy, S.V. Visual serial search for letters, Roman and Arabic numbers. ***Perceptual and Motor Skills,*** 1974, 38, 1077-1078. (3) McCarthy, S.V. and Dillon, W. Visual serial search for Arabic and Roman numbers. ***Perceptual and Motor Skills,*** 1973, 37, 128-130. (4) McCarthy, S.V. Visual serial search performance for number and letter targets. ***Journal of Experimental Psychology,*** 1972, 95, 233-234.

42-DH-1 YOUNG CHILDREN'S COMPREHENSION OF PERSON PRONOUNS

Investigator(s): Janet B. Steig, Ed.M., Assistant Professor, Department of Communication Sciences, Kean College of New Jersey, Union, New Jersey 07083; and Marjorie R. Arnold, Ph.D., Assistant Professor, Graduate School of Education, Rutgers University, New Brunswick, New Jersey 08903. Phone: (201) 247-1766.

Purpose: To investigate young children's understanding of person pronouns.

Subjects: 30 white, middle class, native English-speaking children: 5 boys and 5 girls in each of three age groups: 2½, 3½, and 4½ years.

Methods: The experimenter and a male and a female adolescent were seated at a table across from the subject. Before testing, each subject was asked to indicate which adolescent was the boy and which was the girl. A teddy bear (which was the referent for "it") and four blocks were on the table. Subjects were asked to respond to instructions requiring them to distinguish pronouns on the basis of number, person, and case. Three cases (subjective, objective, and genitive) were tested for each of the following pronouns: I, you, he, she, it, we, and they. Data were analyzed so that comparisons could be made to predictions from linguistic features analysis.

Findings: Only partial support was found for this theoretical approach. As predicted, singular forms were comprehended better than plural ones. However, with respect to person, first and second person pronouns were easiest, but only for singular forms; and, contrary to the hypothesis, no effects were found for case.

Duration: Completed.

Publications: A paper presented at the Southeastern Conference on Human Development, Atlanta, Georgia, April 1978.

42-DH-2 EVALUATION OF PROCEDURES FOR SCREENING PRESCHOOL CHILDREN FOR SIGNS OF IMPAIRED LANGUAGE DEVELOPMENT

Investigator(s): Lynn S. Bliss, Ph.D.; and Doris V. Allen, Ph.D., Associate Professors, Department of Linguistics, Wayne State University, Detroit, Michigan 48202. Phone: (313) 577-2424.

Purpose: To develop a valid screening test to identify normal and impaired language development in preschool children.

Subjects: 500 preschool children, ages 30 to 48 months, are to be tested in each of two data collection phases – race and socioeconomic status will be systematically controlled.

Methods: In Phase 1, subjects received three screening tests and a complete language assessment battery. The screeners were speech pathologists. The assessors also were speech pathologists with a minimum of 2½ years' professional experience. Data analysis showed no single test had sufficiently high validity in detecting impaired language behavior. Valid items from the three tests served as prototypes for a new screening test to be administered by paraprofessionals in Phase 2. Assessments will be made again by experienced speech pathologists.
Duration: September 1976-June 1979.
Cooperating group(s): National Institute of Neurological and Communicative Disorders and Stroke; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: Reports will be available from the National Institute of Neurological and Communicative Disorders and Stroke.

42-DH-3 SENSORIMOTOR BASIS OF LANGUAGE

Investigator(s): Anne Lindsay Carter, Ph.D., Postdoctoral Fellow, Institute of Human Learning, University of California, Berkeley, California 94720. Phone: (415) 642-6000.
Purpose: To uncover the cognitive processes whereby human nonlinguistic communication comes to be dominated by linguistic structures.
Subjects: Four intelligent and healthy children: one boy and three girls, ages 1.0 to 2.0 born of college educated, middle class parents. Two children were firstborn offspring; two were second-born offspring. For the purposes of cross-linguistic comparison, a Hungarian-learning infant is included in the sample.
Methods: The communication of one infant between ages 12 and 24 months has been analyzed. Data are abstracted from videotapes of 10 successive 1-hour play sessions throughout the 2nd year in order to detail the nature of the transition from the infant's use of communication (based, both in form and function, on sensorimotor intelligence) into his later use of communication which is still about the sensorimotor world but is conveyed by verbal proposition. Phenomena presently being analyzed include: the development of 1st morphemes with stable significance; early communicative patterns that persevere beyond the development of syntactic rules; redundancy and generalization in sensorimotor communicational intensity markers often superimposed on communicative schemata to indicate urgency; the process whereby a parent establishes or alters the signification of infant signals; infant strategies to clarify a communication that is misunderstood by the hearer; and infant rules of discourse. The current videotaping project involves, for each of the children monthly, 1-hour recordings of his/her interaction with mother. Video equipment is taken to the homes for naturalistic observations.
Findings: Early communication divides naturally into eight dimensions of communication represented by eight gestural-vocal schemata, each with its own specific and invariant communicative purpose. Findings are documented in Publications listed below.
Duration: 1971-1981.
Cooperating group(s): (1) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) National Science Foundation.
Publications: (1) Carter, A.L. Prespeech meaning relations. In M. Garman and P. Fletcher (Eds.), ***Studies in language acquisition.*** London: Cambridge University Press (in press). (2) Carter, A.L. The disappearance schema. In E. Keenan (Ed.), ***Studies in developmental pragmatics.*** New York: Academic Press (in press). (3) Carter, A.L. From sensori-motor vocalizations to words: A case study. In N. Waterson and C. Snow (Eds.), ***The development of communication.*** London: Wiley, 1978, 127-138.

42-DH-4 MOTHER-CHILD CONVERSATION AND THE CHILD'S ACADEMIC SKILLS

Investigator(s): Donald E. Allen, Ph.D., Professor, Department of Sociology, Oklahoma State University, Stillwater, Oklahoma 74074. Phone: (405) 624-6106; and Rebecca F. Guy, Ph.D., Associate Professor, Department of Sociology, Memphis State University, Memphis, Tennessee 38111.

Purpose: To demonstrate the application of microanalysis to conversational source material in the field of sociology using computer processing of (1) verbatim transcripts of live conversations, and (2) voltage analog output of the tape recorder for investigation of articulation dynamics in live conversation; and to determine the extent and power of conversational skills to predict children's academic performance.

Subjects: Initially 128 firstborn children, age 6, recorded at end of the year in kindergarten. Of these, a final sample of 106 children were recorded 12 months later talking alone to mother and 1st grade teacher. Half were boys, half were girls; half were black, half were white. All were in apparent good health and were free of speech and hearing defects.

Methods: The subjects were given a 30-minute standard test in reading (word recognition), mathematics (addition and subtraction and ability to count grouped objects), and writing (imaginative story composition). Five-minute recordings were made on a stereorecorder loading the adult more loudly on Track 1 and the child more loudly on Track 2. Exact vocalic transcriptions of 340 samples of conversation have been completed since 1975. Provision for syllable counts on the transcripts was accomplished by embedding hyphens as syllable markers. Exact measures include vocabulary range, word and syllable output, and classification by grammatical type of output, including assertions, questions, affirmative and negative supports, fragmentation, laughter, and interjections, accounted by age, sex, and race of child, and by position of the adult. Analysis of the data is continuing on an Interdata minicomputer which incorporates a digitizer. The digitizing program samples each of the two stereo tracks 50 times per second, yielding 90,000 data points for each child in the three conversation samples. The interpreter program is being adjusted to yield a valid syllable count. The resulting data set will contain digital values for the maxima of all syllables, together with the real time interval between syllables, syllable strings, and actors.

Findings: Regression analysis shows a slight positive relation between writing performance and various measures of the child's vocal output. There are also several significant regression relationships for the reading and mathematics performance measures, but the effects are relatively weak.

Duration: June 1974-June 1980.

Publications: A paper presented at the Ninth World Congress of Sociology, Upsala, Sweden, August 1978.

42-DH-5 LANGUAGE ACQUISITION OF BILINGUAL CHILDREN: A SOCIOLINGUISTIC PERSPECTIVE

Investigator(s): Alvino E. Fantini, Ph.D., Director, Department of Language Education, School for International Training, Kipling Road, Brattleboro, Vermont 05301. Phone: (802) 257-7751.

Purpose: To examine sociolinguistic development in bilingual children through longitudinal observation.

Subjects: A boy, age 10; and a girl, age 5, both bilingual in Spanish and English and observed since birth.

Methods: The current research is a longitudinal case study that began at the birth of each child. Data have been collected systematically through speech diaries, taped voice recordings, and occasional videotapes. Analysis has focused primarily on sociolinguistic development; i.e., how the children learn to differentiate language systems, how they become aware of their bilinguality, code switching and its relation to the social variables, language attitudes, the influence of socialization on developing bilingualism and its effects on language usage and styles, and transference across languages. The children are compared periodically to monolingual children of Spanish and English to ascertain how they relate to the norms of monolingual populations.

Findings: A case study of the male subject has been published providing findings to age 5. See Publications below.
Duration: July 1968-continuing.
Cooperating group(s): National Endowment for the Humanities.
Publications: (1) Fantini, A.E. Emerging styles in child speech. ***The Bilingual Review/La Revista Bilingue,*** Fall 1978. (2) Fantini, A.E. Bilingual behavior and social cues: Case studies of two bilingual children. In M. Paradis (Ed.), ***Aspects of bilingualism.*** Montreal: Hornbeam Press, 1978. (3) Fantini, A.E. Social cues and language choice. Case study of a bilingual child. In P.R. Turner (Ed.), ***Bilingualism in the southwest.*** Tucson: University of Arizona Press, 1977. (4) Fantini, A.E. Bilingual acquisition: The need for a sociolinguistic perspective. ***Mextesol Journal,*** Fall and Winter, 1976, 1(3 and 4). (5) Fantini, A.E. ***Language acquisition of a bilingual child: A sociolinguistic perspective.*** Brattleboro, Vermont: The Experiment Press, 1976.

42-DH-6 ACQUIRING LANGUAGE IN THE COMMUNICATIVE CONTEXT

Investigator(s): Marilyn Shatz, Ph.D., Assistant Professor, Department of Psychology, Human Performance Center, University of Michigan, 330 Packard Road, Ann Arbor, Michigan 48104. Phone: (313) 764-5275.
Purpose: To investigate the relative importance of input variables on the child's induction of language.
Subjects: Children, ages 12 to 30 months, from white, middle class homes (number and sex dependent on the particular study).
Methods: Several studies are in progress. Some include observation of maternal behavior in naturalistic play settings. Others involve manipulation of the context in a variety of ways, in order to examine children's responses to language under differing contextual conditions. A language enrichment study is also being carried on which examines input variables like temporal contiguity of presentation and position in the sentence as factors in the acquisition of particular grammatical forms.
Duration: July 1977-July 1980.

Personality

42-EA-1 THE THREE WISHES TEST FOR ADOLESCENTS

Investigator(s): C. Andrew Rigg, M.D., Chairman; and Carol J. Weyland, Ph.D., Senior Psychologist, Department of Adolescent Medicine, Children's Hospital National Medical Center, Washington, D.C. 20010. Phone: (202) 745-2178.
Purpose: To establish the usefulness of the Three Wishes Test as a projective test technique for teen-age patients.
Subjects: 219 Adolescent Clinic outpatients of Children's Hospital National Medical Center, Washington, D.C.
Methods: Results of the Three Wishes Test were sorted into categories identical to those used in the initial study established for latency through the adolescent years (12 to 18). In addition, new response categories were scored relating to adolescent personality development and to the medical setting in which the wishes were elicited: concreteness vs. abstraction; fantasy vs. realism; egoism vs. altruism; and denial vs. mention of medical problem. It was hypothesized that if the test reflects meaningful dimensions of the teen-ager's personality, then age, grade in school, sexual maturation (Tanner staging), sex, social class, and illness of the respondent will be correlated significantly with the kind of wish he reports.

Findings: Research results support the hypothesis except for the variable of sex. This suggests that the Three Wishes Test does reflect clinically meaningful psychological characteristics of adolescents and contributes useful information to the physician's interview.
Duration: January 1978-completed.
Publications: A paper presented at the Society for Adolescent Medicine Meeting, Chicago, October 1978.

42-EA-2 BEHAVIORAL ONTOGENY IN NEWBORNS

Investigator(s): Klaus E. Grossmann, Ph.D., Professor; and Karin Grossmann, Lehrstuhl für Psychologie IV, Universität Regensburg, D-8400 Regensburg, Federal Republic of Germany. Phone: 0941/9433814.
Purpose: To collect extensive information on the developmental conditions of 50 German newborns through their first 2 years of life.
Subjects: 49 newborns and their families selected randomly.
Methods: The children are observed from birth until their second year of life. The Brazelton Neonatal Assessment Scale was administered three times during each child's first 10 days of life, and each child-mother dyad was videotaped three times during their stay in the maternity ward. Home visits including interviews and detailed observational records were made at ages 2, 6, and 10 months. Each mother-child dyad (when the children were 12 months old) and each father-child dyad (when children were 18 months old) were given the Ainsworth Strange Situation Test. At age 2 a series of new home visits was performed in order to investigate the reorientation of the families related to their toddler's widened interests. The children's development will be analyzed in connection with experimental conditions during the mothers' hospital stay: Group I mothers experienced routine delivery and routine treatment in the maternity ward. Group II mothers experienced early contact for 20 to 40 minutes approximately 20 minutes after delivery. Group III mothers experienced daily extended contact during their 8- to 10-day stay in the hospital. Group IV mothers had both early and extended contact with their children.
Findings: A greater percentage of children was labeled "insecure" on the basis of the Ainsworth criteria. Mothers evince highly predictable social behaviors upon the eye opening of their newborn children. Other initial results, which are very complex, rely mainly on the concept of attachment and focus on emotional as well as factual support of the children's interests during the second year.
Duration: January 1977-December 1980.
Cooperating group(s): Stiftung Volkswagenwerk.
Publications: (1) Grossmann, Klaus E. Emotionale und soziale Entwicklung im Kleinkindalter. In H. Rauh (Ed.), ***Jahrbuch für Entwicklungspsychologie, Band 1.*** Stuttgart: Klett-Cotta, 1978. (2) Unpublished paper, available from the investigator: Grossmann, Klaus E. Die Entwicklung sozialer Beziehungen in den ersten beiden Lebensjahren. (The development of social relationships during the first two years of life.)

42-EF-1 YOUNG CHILDREN'S CONCEPTS OF DYING AND DEAD

Investigator(s): Otto Weininger, Ph.D., Associate Professor, Department of Applied Psychology, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6. Phone: (416) 923-6641, Ext. 564.
Purpose: To investigate and try to understand children's concepts of dying and dead.
Subjects: 30 boys and 30 girls, ages 4 to 9, attending one school located in a middle class, urban area and from intact families who have not experienced parental separation or death. The children did not have any unusual emotional or physical problems.

Methods: The child was introduced to the interviewer, who said he was someone interested in finding out how children play with some toys and what they think about some things. In the play procedure, the interviewer presented the materials saying, "The doll is very sick and is going to die" alternated with "The doll was very sick and is now dead." The discussion part of the session consisted of four questions devised by Koocher (1974): "What makes things die?" "How do you make things come back to life?" "When will you die?" and "What will happen when you die?" If the child declined to answer after some encouragement, he/she was not pressed, and the discussion changed direction and became one of talking about what the child was doing at school.
Findings: Results indicate a change in accuracy and comprehension of the concepts ***is going to die*** and ***dead:*** the 4-year old did not understand the concept ***is going to die,*** nor the concept ***is now dead.*** Five-year olds do not carry out the instructions as presented. The 5-year old does not seem to understand the concept ***is dying*** or ***is dead.*** The 6-year old generally has the sick doll recover, but the idea of death as permanent is now introduced by the child. The 7-year old does not have these concepts established, but the 8-year old shows complete accuracy in the play situation, but the words that are used to explain their thinking are not as accurate as their play actions. At age 9, most children demonstrate an understanding of the permanency of death.
Duration: September 1977-completed.

42-EF-2 ANXIETY AND DEFENSIVE STRATEGIES IN CHILDHOOD AND ADOLESCENCE: AN EMPIRICAL STUDY UTILIZING PROCESS-ORIENTED INSTRUMENTS OF DESCRIPTION

Investigator(s): Gudmund J.W. Smith, Ph.D., Professor; and Anna Danielsson, M.A., Research Associate, Department of Psychology, Lund University, Paradisgatan, S-22350 Lund, Sweden.
Purpose: To evaluate the effectiveness of two process oriented techniques to describe reactions of anxiety and strategies of defense in children.
Subjects: 72 normal school children, ages 7 to 15; 55 normal preschool children, ages 4 to 6; and 75 clinical children, ages 4 to 16, having some form of anxiety manifestations.
Methods: All children are tested with the serial Afterimage test (AI), the Meta-Contrast technique (MCT), and Piaget's Landscape Test. The AI and the MCT rest on a percept-genetic theoretical model which assumes that processes leading up to reality-adapted perception (processes mapped by the tests) reflect the personality of the subject. Special investigations are made in the clinical group related to such topics as the regressive reactions caused by a subject's inability to deal with anxiety, the change with increasing age of manifestations of depression, borderline reactions, psychotic states, etc. All information regarding anxiety defense and symptoms will be summarized in an inverted factor analysis.
Findings: The data clearly reflect a series of transitions of anxiety manifestations and defensive strategies from early childhood to puberty. This change is not arbitrary but reflects the proceeding maturation of the organism. It is possible to describe how anxiety manifestations change from open reactions of fear in young children to more and more internalized expressions in older children and how defenses against anxiety change accordingly. This development is correlated closely with cognitive maturation or, more precisely, with the child's ability to distinguish between self and nonself. The first major transition occurs when around age 5 the child enters a stage where thought processes are less closely tied to action than before. However, as long as the cognitive perspective remains egocentric, the child's defensive strategy is closely tied, if not only to concrete impressions, at least to their immediate representations. Not until these immediate appearances cease to dominate thought processes, at the second major transition a few years later, do the adult types of defense enter the scene. The shift from a dominating external perspective to an internal one is often marked by an exaggerated subjectivity. A trained psychologist can score the tests with high precision and obtain crucial information about a subject within a few hours.
Duration: 1974-1979.
Cooperating group(s): Swedish Council for Social Science Research.
Publications: (1) Smith, G.J.W. and Danielsson, A. Psychopathology in childhood and adolescence

as reflected in projected afterimage serials. *Scandinavian Journal of Psychology,* 1978, 19, 29-39. (2) Smith, G.J.W. and Danielsson, A. From open flight to symbolic and perceptual tactics. *Scripta Minora.* Lund: Gleerup, 1976-77.

42-EF-3 SYMPATHY AROUSAL AND THE DEVELOPMENT OF GUILT IN CHILDHOOD

Investigator(s): Ross A. Thompson, A.B.; and Martin L. Hoffman, Ph.D., Developmental Psychology Program, Department of Psychology, University of Michigan, 3433 Mason Hall, Ann Arbor, Michigan 48109. Phone: (313) 764-1587.

Purpose: To test experimentally the hypothesis that the arousal of sympathy for the victim fosters guilt feelings in the wrongdoer; to examine age and sex differences in guilt arousal; and to extend research concerning the development of guilt to younger age groups than previously investigated.

Subjects: 36 girls and 36 boys in grades 1, 3, and 5 of Ann Arbor public schools.

Methods: Each child was shown three stories (each describing an act of wrongdoing; e.g., cheating at checkers, etc.) utilizing color slides and corresponding narrative. Story characters were the same age and sex as the subject and order of story presentations was counterbalanced. Subjects were interviewed following each story. After an assessment of story comprehension, subjects were asked to make up a completion to the story and to put themselves in the role of the protagonist: (1) to describe how they would have felt after committing the wrongdoing, (2) to rate the intensity of that feeling, (3) to explain why they would feel that way, and (4) to tell how they would feel if the wrongdoing were detected. Following the assessment of story comprehension, subjects randomly assigned to the sympathy arousal condition were asked to describe how the victim of the wrongdoing felt afterwards. Control subjects received no such arousal. Interviews were recorded and transcribed verbatim. The primary index of guilt was a story completion measure, from which was obtained a composite story completion guilt score. Three other composite guilt indices were based upon: the subject's self-report of guilt intensity, the subject's explicit expressions of concern for the victim, and the quality of justice principles given to explain the guilt feelings.

Findings: All four guilt scores obtained by the sympathy arousal subjects were higher than those of the control subjects, although the difference was significant only on the story completion index. These findings seem to indicate that children who became engaged in the victim's distress were more prone to feeling guilty than those who did not. The findings, therefore, provide modest support for the hypothesis that sympathy arousal contributes to guilt. Three of the four guilt indices varied significantly with age. Thus, older children were found to exhibit more intense story completion guilt, showed greater concern for the victim's welfare, and provided reasons for guilt based upon internalized principles of justice – in contrast to the external orientation of younger children. Contrary to expectations, boys scored significantly higher on guilt intensity; girls were nonsignificantly higher on story completion guilt. Relevant cognitive and affective developmental processes are discussed in relation to guilt development.

Duration: October 1976-September 1978.

Cooperating group(s): (1) Ann Arbor Public Schools. (2) National Science Foundation.

Publications: Information is available from the investigators.

Social

42-FA-1 CLASSROOM LEARNING STYLE AND COOPERATIVE BEHAVIOR OF ELEMENTARY SCHOOL CHILDREN IN ISRAEL

Investigator(s): Shlomo Sharan, Ph.D., Senior Lecturer, School of Education, Tel-Aviv University, Tel-Aviv, Israel; and Rachel Hertz-Lazarowitz, Ph.D., Lecturer, School of Education, Haifa University, Haifa, Israel.

Purpose: To assess the effect of two classroom learning styles on children's cooperative behavior; i.e., the cooperative learning in small groups vs. the individual competition of traditional classroom instruction.

Subjects: Children from three elementary schools in a lower class urban neighborhood in Israel participated in two experimental studies. Study I: 243 children from nine experimental classrooms, grades 3 through 7; and 150 children from parallel classrooms in the control schools. Study II: 270 children (54 groups of five children) were selected from each of the 18 experimental and control classrooms. Fifty percent of the subjects had not participated in Study I.

Methods: Two experiments were conducted to assess various dimensions of cooperation and competition in children's spontaneous interpersonal behavior, as well as in their individual judgments. Both experiments were carried out in lower class urban Israeli elementary schools in which the teachers had participated in a 1½-year project to implement cooperative small group learning in their schools. Study I employed a game-like task to assess the extent to which children's classroom experience would transfer to their behavior in a nonacademic situation. Using the Madsen Marble Game as a paradigm, 14 matrices were constructed for this experiment, the Chocolate Coin Game. The matrices provided 33 possible choices, each of which presented the subject with the dilemma of making a cooperative or competitive-type selection. The experimenter selected randomly four or five children at a time from each of the 18 classrooms to play the game. Subjects made judgments individually without consulting others. Study II used an academic task, and its purpose was to allow for direct observation of children's task-oriented interaction with classmates when their behavior was not structured by the teacher. In Study II, each group of five pupils met with the experimenter, and a well-known epigram (understood by all children) was presented to each group. Children were asked to recombine the letters into new words not appearing in the epigram. At the onset and in the middle of the 15-minute task, pupils were told to try and work together. Detailed notes were made of their behavior on a number of dimensions of cooperation and competition. Judges evaluated the protocols on indicators of cooperation (e.g., announcing new words to groupmates, having new words accepted by groupmates, consulting with others about new words, requesting and offering help, accepting help, etc.); indicators of competition (e.g., rejection of new words, children comparing the quantity of words they have created, hiding one's page from others' view, rejecting others' requests for or offers of help in creating new words, etc.); and/or neutral behavior (e.g., nontask oriented talk, talk to experimenter, etc.). The number of words created by the groups was recorded as a measure of group productivity.

Findings: Results from both experiments were similar: pupils from the cooperative, small group classrooms were more cooperative and less competitive than those from classrooms where teachers employed the traditional competitive recitation model. The social climate in groups comprised of children from the small group classrooms was found to be more relaxed than in groups from the classrooms with whole class instruction. Most of these differences were very large as well as being statistically significant. This was true of children at each grade level, from grades 3 through 7, and on a variety of tasks measuring individual judgments and interpersonal peer interactions. Pupils from the small group classrooms, who behaved more cooperatively while performing the task in Study II, also created more new words than did agemates from control classes. Findings also show that cooperating learning patterns in the classroom transfer to children's behavior on nonacademic and academic-like tasks on both the cognitive-judgmental and on the social-interactive levels. These results were grounds for asserting that school experience, and not only family life, influences children's cooperative and competitive behavior.

Duration: Completed.

Cooperating group(s): Israel Center for Instructional Television.

Publications: (1) Sharan, S. Cooperative learning in small groups: A review of methods and effects on academic achievement, attitudes, and race/ethnic relations, 1978. (2) Sharan, S.; Lazarowitz, R.; and Reiner, T. Closed circuit television and experiential workshops for implementing instructional innovations, 1978.

42-FA-2 CHILDREN'S ETHNIC RELATIONSHIPS

Investigator(s): Suzanne Ziegler, Ph.D., Research Coordinator and Visiting Professor, Child in the City Project, University of Toronto, 455 Spadina Avenue, Suite 424, Toronto, Ontario, Canada M5S 2G8. Phone: (416) 978-6895.
Purpose: To document the friendship choices of children of a visible minority, a nonvisible minority, and the majority group; to examine the relationship between such choices and certain other selected variables; and to validate behaviorally attitudinal measures of tolerance.
Subjects: 80 girls and 73 boys, ages 12 to 15 (most are age 13 or 14), almost all in grade 8 (a few in grade 7), attending four schools in metropolitan Toronto. 49 children are Italian-Canadian (10 are 1st generation and 39 are 2d generation); 55 are 2d generation Chinese-Canadian (1 is Chinese and 1st generation); and 48 are Anglo-Canadian (a few of them 2d generation, but most are 3d or subsequent generation). Half of the children live in neighborhoods and attend schools where their group is the dominant one numerically. The other half of the children represent a minority of less than 10% in their school catchment area.
Methods: The study is focused on intragroup and intergroup relations and examines the relationship between in- and outgroup friendship and selected psychological, sociological, and demographic variables. While the principal method used was the anthropological field method to observe and record behavior, some pencil and paper measures were also used: the Nowicki-Strickland Locus of Control Test (abbreviated form); Rosenberg Self-Esteem Scale; and investigator-created measures of tolerance for social diversity, tradition orientation, and Chinese and Italian ethnic identity.
Findings: The single most powerful predictor of amount of outgroup friendship choices is whether one's ethnic group is small rather than a numerically dominant group locally.
Duration: February 1977-completed.
Cooperating group(s): Ministry of Culture and Recreation, Ontario.

42-FA-3 YOUNG CHILDREN'S TIME AND IQ

Investigator(s): Toni Falbo, Ph.D., Assistant Professor; and Catherine Cooper, Ph.D., Assistant Professor, Department of Educational Psychology, University of Texas, Austin, Texas 78712. Phone: (512) 471-4155.
Purpose: To test empirically the assumptions of Azjonc and Markus (1975) related to the amount of time a child spends with adults or peers and that child's intellectual development; to examine the relationship between IQ and time spent with nonfamilial persons and in various types of activities; and to describe what types of general behaviors and social interactions are related to intelligence among preschool children.
Subjects: 13 girls and 11 boys, average age 4.6, from intact, middle class families; and their mothers.
Methods: Each mother kept a daily record of her child's activities and companions for 13 hours a day for one week. Afterwards, the children were tested individually using the Peabody Picture Vocabulary Test.
Findings: An examination of the records indicated that eight categories of activity and six categories of person could account for all descriptions made. The Activities Categories were: sleep and rest, meals and snacks, school, play, TV, maintenance (e.g., errands, baths, and housecleaning), socializing (e.g., visiting or entertaining other families with members of one's family), and reading. The Person Categories were: alone, sibling, parent, peers, whole family, and others. The interrater reliability (percent agreement) for all categories was above 90%. The results indicate that time spent with parents ($r = .34$, $p < .05$) and siblings ($r = .38$, $p < .05$) were related to IQ. However, time with peers ($r = -.39$, $p < .05$) was related negatively to IQ. The reason suggested for the discrepancy between sibling and peer time results is that parental presence alters the nature of the interaction between children. Parental presence was more common during sibling time (76%) than

peer time (24%). In terms of activities, play with parents was related positively to IQ ($r = .35$, $p < .05$), while play with peers ($r = -.38$, $p < .05$) was related negatively to IQ. These results indicate the significance for intellectual development of the person present during activities. TV watching ($X = 5.5$ hours per week) was related positively to IQ ($r = .34$, $p < .05$), although previous researchers have reported a negative relationship between TV watching and intellectual skills. (The explanation for this positive finding is that the children in this sample were either older or watched less TV than children studied previously.) No sex differences were found, nor did having a sibling alter the amount of time spent alone, with peers, the whole family, or others. The IQ scores ranged from 100 to 140. Although the results provide support for the assumptions made in the confluence model (Azjonc and Markus), they do not uniquely support it. Similar findings would have been expected from modeling theory.

Duration: Completed.

42-FA-4 A FOLLOW-UP STUDY OF THE SOCIALIZATION AND DEVELOPMENT OF TWIN BOYS

Investigator(s): Hugh Lytton, Ph.D., Professor; and Denise Watts and Bill Yuzwak, Research Associates, Department of Educational Psychology, University of Calgary, 2920 - 24th Avenue, N.W., Calgary, Alberta, Canada T2N 1N4. Phone: 284-5652.

Purpose: To investigate the socialization process from a longitudinal perspective, and in particular, to study the development of twins over time.

Subjects: As many as possible of 46 pairs of male twins, ages 8 to 10, whose family interaction and social development were first studied when they were age 2½. A control group of singleton boys, with one control subject per twin pair, will be selected randomly from the twins' classes to participate in the study on a limited basis.

Methods: Assessment of family interaction and parental socialization practices will be carried out in the home. Three structured family tasks will be administered to each twin pair and their parents together. These will consist of a construction task (building with a Lego set), a cooperative/competitive task (Madsen Cooperation Board), and a family discussion. Mother and father will be interviewed separately in the home to obtain information on the twins' behavior and development and on parents' childrearing practices. An informal observation will be conducted during the home visits to assess the general climate of family interaction (twin families only). Assessment of both twins and singletons will be carried out individually at school. Teachers will be asked to complete two rating scales on each subject with whom they are working. The children will be administered the Crichton Vocabulary Scale, the Progressive Matrices (Sets A, Ab, B), and the Peabody Individual Achievement Tests. They will also be given two tests of moral maturity and moral reasoning (Hoffman, 1970 and Carroll, 1974) which have been adapted for the study. School health and psychological files will be examined for information pertaining to the children's physical growth and health and adjustment to the school environment. Twins only will be asked to answer some general questions concerning their relationships with parents. Basic questions include: How do twin boys' general ability, school achievement, moral development, peer relations, and general adjustment differ from those of singleton boys at elementary school age? How far can twins' characteristics at ages 8 and 10 be predicted from their earlier and their parents' earlier and current characteristics? How far can they be predicted from biological factors; i.e., pregnancy and birth data? What is the genetic contribution to these characteristics?

Duration: September 1978-September 1980.

Cooperating group(s): Social Sciences and Humanities Research Council, Canada.

Publications: (1) Proceedings of the Second International Congress on Twin Studies, Washington, D.C., August 1977: A genetic analysis of twins' naturalistically observed behavior. (2) Lytton, H.; Martin, N. G.; and Eaves, L. J. Environmental and genetical causes of variation in ethological aspects of behavior in two-year-old boys. ***Social Biology,*** 1977, 24, 200-211. (3) Lytton, H. Correlates of compliance and the rudiments of conscience in two-year-old boys. ***Canadian Journal of Behavioral Science,*** 1977, 9, 242-251. (4) A list of publications is available from the investigators.

42-FB-1 SEX ROLE IDENTITY IN ADOLESCENCE

Investigator(s): Antanas Suziedelis, Ph.D., Professor, Department of Psychology, Catholic University of America, Washington, D.C. 20064. Phone: (202) 635-5999.
Purpose: To contribute to the understanding of sex role development during adolescence; and to develop a set of reliable and convenient instruments for the study of sex roles in this age group.
Subjects: 1,000 adolescents, ages 12 to 16: 100 boys and 100 girls in each age group (12, 13, 14, 15, and 16). The sample was balanced for race, socioeconomic status, urban-rural, and geographic area (67 different U.S. locations).
Methods: A specially designed schedule, including a combination of techniques (structural interviews, rating scales, self-report inventory, and projective-type items) will be used. The schedule was administered individually by interviewers in sessions averaging 45 minutes. Data have been extensively checked, coded, scaled, and are now being analyzed.
Duration: September 1975-September 1979.
Cooperating group(s): Catholic University, Boys Town Center for the Study of Youth Development.
Publications: A paper presented at the American Psychological Association Convention, 1977: Suziedelis, A. Differentiation of masculine and feminine among adolescent girls.

42-FB-2 SEX BIAS IN CLASSROOM TEACHERS' SPEECH AND LANGUAGE REFERRALS

Investigator(s): Ellen-Marie Silverman, Ph.D., Assistant Professor; and K. Van Opens, Department of Speech, Marquette University, Milwaukee, Wisconsin 53233. Phone: (414) 224-7349.
Purpose: To detect whether and to what degree elementary school classroom teachers' speech and language referrals are influenced by the sex of the child.
Subjects: Over 100 elementary classroom teachers, in grades K-6, employed by four school districts in a suburban area of a large metropolitan area.
Methods: Each teacher will complete a questionnaire designed to assess the likelihood of her referral to a speech pathologist children with identified communication disorders based on the sex of the child. Approximately 25 teachers will be administered each of four forms. Each of the questionnaire forms will contain four brief anecdotes featuring four communication disorders: stuttering, voice disorders, articulation disorders, and language disorders. Forms will vary in terms of the sex of the child mentioned in the anecdote and in terms of the order of placement of the anecdote on the page. Mean scale values indicating likelihood of referral for each disorder by sex and the severity of the disorder by sex will be computed.
Duration: August 1978-November 1978.

42-FB-3 EFFECT OF PUBERTAL DEVELOPMENT ON MALE STEREOTYPICAL BEHAVIOR

Investigator(s): Anthony J. Russo, M.A., Graduate Student, George Peabody College for Teachers, Box 771, Nashville, Tennessee 37203. Phone: (615) 329-0822; and John Money, Ph.D., Professor, Department of Pediatrics, Johns Hopkins University Hospital, Baltimore, Maryland 21218.
Purpose: To study the effect of pubertal development on male stereotypical (macho) behavior.
Subjects: Approximately 200 middle class boys, ages 10, 13, and 16.
Methods: Boys were given a battery of tests and measures to evaluate gender identity and self-concept, including a peer status scale, a macho behavior scale, a pubertal scale, a cognitive development (formal operations) instrument, measurement of socioeconomic status, and a measurement of sexual morality growth.
Duration: October 1978-December 1979.

42-FB-4 **ALCHEMY OF LOVE (IN ADOLESCENTS)**

Investigator(s): M.A. Sklansky, M.D., Professor, Clinical Psychiatry, Chicago Institute of Psychoanalysis, 180 North Michigan Avenue, Chicago, Illinois 60601. Phone: (312) 332-4434.
Purpose: To study psychological elements, such as narcissism and sexual needs, and their interrelationship in adolescents.
Subjects: 20 adolescent boys and girls, ages 15 to 20.
Methods: Both long- and short-term psychoanalysis and psychotherapeutic studies will be carried out. Detailed verbal accounts of the interactions in these sessions will be recorded and analyzed.
Findings: Preliminary analysis of data seems to point to a blending of narcissistic and sexual needs in transference from childhood objects to peers.
Duration: 1976-1980.

42-FB-5 **GENDER IDENTITY DEVELOPMENT: ATYPICAL AND TYPICAL**

Investigator(s): Richard Green, M.D., Professor; and Katherine Williams, M.A., Research Associate, Department of Psychiatry and Behavioral Science, Health Sciences Center, State University of New York, Stony Brook, New York 11794. Phone: (516) 444-2581; John Hanley, M.D.; and Robert Stoller, M.D., Professors, Department of Psychiatry, University of California Medical School, Los Angeles, California 90024; and Robert Rose, M.D., Professor, Department of Psychiatry and Behavioral Science, University of Texas Medical Branch, Galveston, Texas 77550.
Purpose: To follow a group of culturally atypical and prepubertal boys and girls and a culturally typical matched group through adolescence and into adulthood to assess the developmental unfolding of conventional and unconventional patterns of sexual identity in males and females.
Subjects: 60 ***feminine*** boys, initially evaluated at ages 4 to 11, and their parents were paired with an age-and-family constellation matched group of 50 boys with typically masculine behaviors; and 50 ***tomboy*** girls, evaluated at ages 4 to 12, and their parents were paired with an age-and-family constellation matched group of typically feminine girls. Control samples consisted of children matched for age, sibling sequence, parental marital status, and parental SES.
Methods: Typical and atypical gender identity development data were gathered in several ways. After the initial telephone screening, both parents received and filled out a self-administered questionnaire developed for this study. It included informational and attitudinal questions dealing with demographic characteristics, family composition, marital interaction, parent-child relationships, and the child's behavior. Each parent also completed the Minnesota Multiphasic Personality Inventory and the Sixteen Personality Factor Questionnaire. Both parents (if possible) then underwent a joint clinical interview covering the child's developmental history and current behavior patterns, and individual interviews covering their own developmental and current experiences (e.g., parents' earlier life experiences, current marital relationship, their relationship to their child, and descriptions of their child's behaviors). The sample children were given a series of psychological tests that have been shown to reveal sex differences: It-Scale for Children, Draw-A-Person Test, Draw-A-Family Test, Toy Preference Test, Family Doll Fantasy, Parent and Activity Preference Procedure, Parent Reaction to Sex-Typed Play, Children's Embedded Figures Test, and the Family Apperception Test. Children were also given the appropriate level Wechsler Intelligence Scale, and additional information about the child's school interactions was provided by a school teacher rating form. A number of studies were also performed including Buccal Smears taken on the ***feminine*** boy sample; electroencephalographic studies recorded on subsamples of all four groups; and plasma testosterone analysis done for a subsample of both groups of males. Periodic reevaluations were performed with children undergoing clinical interviewing, and parents completing self-administered questionnaires evaluating both the child's current behaviors and their methods of coping with these behaviors.
Findings: The atypical children engage in gender-role behaviors considered typical of the other sex. The ***feminine*** boys avoid sports and rough, aggressive activities. They prefer the company of

girls, playing with girls' toys and dressing in girls' clothes. They role play as females when playing house or imitating characters from books or television. The ***tomboy*** girls behave in a culturally masculine manner. Sports, especially when played with boys, is a favorite activity. They are less interested in playing with dolls than with trucks and guns. If they play house-type games, they often take a male role. Their gender-role behavior closely resembles that of the ***masculine*** boy group. The descriptions provided are based on the initial evaluations of these children and will be supplemented by periodic reevaluations.

Duration: 1969-1980.

Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: (1) Williams, K.; Green, R.; and Goodman, M. Patterns of sexual identity development: A preliminary report on the "tomboy." In R. Simmons (Ed.), ***Research in community and mental health.*** Greenwich: JAI Press (in press). (2) Green, R. Children with cross-gender behaviors. In J. Noshpitz (Ed.), ***Basic handbook of child psychiatry.*** New York: Basic Books, Inc. (in press). (3) Green, R. One hundred ten feminine and masculine boys. Behavioral contrasts and demographic similarities. ***Archives of Sexual Behavior,*** 1976, 5, 425-446. (4) Green, R. ***Sexual identity conflict in children and adults.*** New York: Basic Books, Inc., 1974. (5) Green, R. Twenty-five boys with atypical gender identity: A behavioral summary. In J. Zubin and J. Money (Eds.), ***Contemporary sexual behavior.*** Baltimore: Johns Hopkins University Press, 1973. (6) A publication list is available from Dr. Green.

42-FB-6 DEVELOPMENT OF SEX DIFFERENCES IN EXPLORATORY BEHAVIOR DURING THE FIRST YEAR OF LIFE

Investigator(s): Heidi Keller, Ph.D., Assistant Professor, Institute of Psychology, University of Mainz, Saarstr. 2, 65 Mainz, West Germany. Phone: 06131/392346.

Purpose: To analyze parent-child relationships related to the development of sex differences.

Subjects: 10 girls and 10 boys followed from their 14th day until they are age 1.

Methods: The children are visited eight times at home and undergo the same procedures at each age level. Mother-child and father-child interactions are videotaped in a free play situation. The tapes are analyzed according to a descriptive system. Exploratory measures include (1) visual exploration (habituation paradigm according to Lewis), visual pursuit (according to Karnes), and visual fixation (according to Kagan); (2) auditory exploration (presentation of four tones); and (3) manipulative exploration (in the second half of the 1st year of life). Control variables include (1) maturity measures (length, weight, head circumference), (2) spontaneous activity during non-rem-sleep, and (3) affective rating of the parents.

Findings: Sex differences in behavioral reactions to auditory stimulation are evident – girls are more active and show greater behavioral variability at 14 days, but not at 3 months.

Duration: 1977-1979.

Cooperating group(s): Deutsche Forschungsgemeinschaft (German Research Foundation).

42-FB-7 AN INVESTIGATION OF SEX ROLE DEVELOPMENT IN CHILDREN

Investigator(s): C.H. Henshall, M.A., Research Student, Medical Psychology Unit, Cambridge University, Free School Lane, Cambridge, England.

Purpose: To describe the sex role development of middle class nursery school children; and to attempt to relate individual differences to environmental variables such as siblings, parental sex role behavior and attitudes, and contact with the world outside the family.

Subjects: 50 children of professional or academic parents, ages 2½ to 5, attending nursery school at least twice a week.

Methods: During free play period at school, an observational study was conducted to examine peer choice, social interaction, toy choice, and activity levels. A wide range of specially designed tests and interviews administered individually assessed knowledge of anatomical sex, sex typed hair styles and clothing, and concepts of adult and child sex roles. Sex role interviews are readministered to groups to investigate the effect of various children on each other's attitudes. After 6 months at primary school, sex role interviews will be repeated on some children. Parental interviews will assess parental sex role attitudes and behavior and the contact the child has with the outside world through books, TV, friends, and travel. This information will be cross-checked with behavioral record sheets which parents will be asked to fill out.
Duration: October 1976-December 1979.
Cooperating group(s): Social Science Research Council.

42-FB-8 CROSS-CULTURAL STUDIES OF SOCIAL BEHAVIOR

Investigator(s): David R. Thomas, Ph.D., Professor, Department of Psychology, University of Waikato, Private Bag, Hamilton, New Zealand. Phone: 62-889.
Purpose: To compare sex role differences in social behavior.
Subjects: 96 school children, ages 14 to 16, equally divided by sex, from New Zealand, Cook Islands, Western Samoa, and Fiji.
Methods: The girls and boys were asked to indicate the frequency with which they engaged in 34 activities (on frequency categories) and then to indicate whether they thought each activity was appropriate for men only, women only, or both men and women.
Duration: January 1977-June 1979.
Publications: (1) Thomas, D.R. Cooperation and competition among children in the Pacific Islands and New Zealand: The school as an agent of social change. ***Journal of Research and Development in Education,*** 1978. (2) Thomas, D.R. Cooperation and competition among Polynesian and European children. ***Child Development,*** 1975, 46, 948-953.

42-FB-9 PREMENSTRUAL TENSION AND MENARCHEAL EXPERIENCE

Investigator(s): Jon C. Meccarello, Ph.D. Candidate, Instructor, Department of Psychology, State University of New York, 4230 Ridge Lea Road, Amherst, New York 14226. Phone: (716) 831-1187.
Purpose: To study the effects of the quality of women's preparation for and subsequent experience of the menarche (first menstruation) on the psychological, psychophysiological, and cognitive correlates of later premenstrual tension.
Subjects: 65 girls: 36 girls were assessed premenstrually and then postmenstrually, while 29 girls were assessed postmenstrually and then premenstrually.
Methods: In the first session, three psychological measures were used: the Mehrabien and Russell Impact of Environments Scale, the Rotter Internal-External Locus of Control Scale, and the Spielberger State Anxiety Scale. Each subject's measurements of autonomic reaction were assessed during a resting phase (spontaneous skin fluctuations, skin conductance level, respiration, heartrate) and during a task that consisted of rating the volume of a series of tones of constant moderate intensity (loudness, slope of the loudness ratings, habituation of skin conductance response to the tones, skin conductance response, heartrate response). A menarcheal experience questionnaire assessed subjects' menarche experience. In the second session, the procedure used to assess the psychological and autonomic measurements was repeated in the same order as in the first session. Each subject was placed into either the positive feedback, negative feedback, or no task/no feedback condition to assess attributions for performance outcome. Those in the positive or negative feedback conditions were asked to perform a puzzle task (No. 7, Wechsler Adult Intelligence Scale) and were given positive or negative feedback regarding their performance out-

come. Causal attributions regarding their performance were measured. Then all subjects' reports of premenstrual symptoms were assessed.

Findings: A possible model of premenstrual arousal in psychological, psychophysiological, and cognitive terms could be articulated. Negative menarcheal experience interacts with the menstrual phase to effect differing attentional factors in women. Social and cultural factors, such as perceived success or failure on a neutral task, can influence women's reports of premenstrual symptoms.

Duration: March 1977-February 1979.

Publications: A paper presented at the American Psychological Association Meeting, Toronto, Ontario, Canada, 1978: Meccarello, J.C. The effects of reported menarcheal experiences on premenstrual tension symptomatology.

42-FC-1 ALCOHOL ABUSE PREVENTION AMONG YOUTHS IN BOYS' CLUBS

Investigator(s): Donald K. Jordan, National Project Director, Alcohol Abuse Prevention, Boys' Clubs of America, 771 First Avenue, New York, New York 10017. Phone: (212) 557-8584; and Carol Kazlow, Ph.D.; and Susan Lachman, M.A., Insight Associates, 28 Shore Park Road, Great Neck, New York 11023.

Purpose: To assess the impact on participants of nine demonstration model alcohol abuse prevention education programs; to identify modalities that most effectively enabled youngsters to make responsible decisions concerning alcohol; and to develop alcohol education programs that can be incorporated into the framework of the Boys' Clubs and can be replicated in other clubs.

Subjects: Boys, ages 9 to 19, enrolled in one of nine demonstration Boys' Clubs' alcohol abuse prevention education programs.

Methods: The Boys' Clubs of America Alcohol Abuse Project (BCA) was based on three sequential types of demonstration projects: Pilot, Model, and Prototype. The first year was characterized as a Pilot Phase – a trial and error period that emphasized developing intervention strategies. The rationale developed during the Pilot Phase was based on the hypothesis that positive feelings toward oneself and others would lead to responsible decision making in many areas. Thus, when youngsters are confronted with difficult decisions regarding alcohol, those who have developed greater awareness of themselves, their values, and their worth would be better able to weigh alternatives and make informed, reasoned decisions. In the 2d year, the Model Phase, strategies developed during the Pilot Phase were tested. In the 3d year, the project utilized the prototypes that would test the applicability of the models to the real world. In 1976-77, the Model Year, nine Boys' Clubs were selected on the basis of their need, interest, and ability to develop demonstration programs. In each club, an alcohol abuse prevention project was developed around a different aspect of the Boys' Clubs' program: i.e., citizenship training at Boys' Club of East Aurora; keystone at Boys' Club of Fullerton; cultural at Kips Bay Boys' Club; media project at Pacifica Boys' Club; peer counseling at Boys' Club of Pittsfield, Inc.; community education at Richmond Boys' Club; arts and crafts at South Omaha Gene Eppley Boys' Club; and the family approach at Wheeler Boys' Club. Three instruments were developed to assess the project's impact on the participants. The instruments administered to the participants at the inception of the program consisted of (1) a series of demographic questions designed to elicit information on patterns of alcohol use; (2) the Rosenberg Self-Esteem Scale; and (3) a structured, open-ended interview to evaluate several factors related to alcohol consumption behavior (i.e., amount consumed at one sitting, drinking resulting in troublesome behavior, conforming behavior in drinking situations, etc.). Data analyzed were based on 124 pretests and 95 posttests of the participants. Reports of on-site visits by National Project staff were written, and interviews with Project Coordinators were taped to determine the nature of the implementation process in the individual clubs.

Findings: Evaluators concluded that the BCA Project (1) modified the attitudes and behavior of 129 youngsters enrolled in BCA demonstration alcohol abuse projects, (2) exposed 27 secondary groups to alcohol awareness programs in seven sites, and (3) developed model programs that are

ready to be incorporated into the structure of the Boys' Clubs. There appeared to be a consistent decline in the perceived pressure to drink on the part of program participants (50% of pretest participants vs. 63% of posttest participants felt never pressured to drink). There was a trend away from conforming to this peer pressure (22% pretest participants vs. 13% posttest participants said they usually went along with the pressure to drink).

Duration: September 1975-December 1978.

Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-FC-2 THE NAPA EXPERIMENT: PREVENTION EVALUATION RESEARCH

Investigator(s): Eric Schaps, Ph.D., Project Director, Pacific Institute for Research and Evaluation, 39 Quail Court, Suite 201, Walnut Creek, California 94596. Phone: (415) 938-4900.

Purpose: To examine the impact of various substance abuse prevention strategies using rigorous experimental and quasiexperimental designs; and to test six strategies designed to build the social competencies of young people and to strengthen the responsiveness of their school environments.

Subjects: Approximately 4,000 control and 4,000 experimental school children, in grades 3 through senior high school, within the Napa Valley Unified School District.

Methods: To analyze the effectiveness of this 3-year longitudinal drug abuse prevention program, evaluations at the end of each project year will involve comparisons of experimental and control classes, and these will be based on measures assessed appropriate to the particular grade levels tested. The evaluation will be guided by a change agent model which hypothesizes a sequential causal ordering of program outcomes from general effects on individuals' general self-perceptions to specific effects on attitudes and intentions related to drug use. Outcome measures include several indices of drug use and abuse: self-reported use, institutional records of use, trace measures of use, intentions of use, attitudes toward drugs and drug use, exposure to use, as well as measures of various personal and social factors thought to be significant in the etiology of use. Emphasis will be placed upon the use of multiple research methods, multiple measurement techniques, and multiple comparison groups. Specific instruments and methods to be used include: Teacher Morale Inventory (Suehr); Moos and Humphrey Group Environment Scale; Moos and Trickett Classroom Environment Scale; Locus of Responsibility Scale; Piers-Harris Children's Self-Concept Scale; Jessor PV-AGR and E-ACR Scales; Stanford Achievement Test, Form A (Primary, Intermediate, and Advanced); California Test of Personality; Sense of Personal Freedom Subscale; Jessor PV-Ind Scale; and California Study Methods Survey (Planning and Systems Subscale).

Duration: July 1978-continuing.

Cooperating group(s): Prevention Branch; National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-FC-3 DRUG EXPERIMENTATION AMONG PRETEENS IN A HIGH RISK COMMUNITY

Investigator(s): David Caplovitz, Ph.D., Professor, Department of Sociology, Graduate School, City University of New York, 33 West 42nd Street, New York, New York 10036. Phone: (212) 790-4713.

Purpose: To find out the extent of drug experimentation among boys, ages 10 to 13, living in a low income community in New York City; and to find out some of the determinants of drug use by children in this age range.

Subjects: 500 boys, ages 10 to 13, living on the Lower East Side of New York.

Methods: Utilizing a standardized questionnaire, an interview survey will be administered to each boy three times over a 2½-year period.

Findings: From 5% to 20% of these youngsters reported drug use – the highest percentage being for marijuana.
Duration: April 1977-March 1980.
Cooperating group(s): National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-FC-4 CHILDREN'S SMOKING

Investigator(s): Beulah R. Bewley, M.D., M.Sc., M.F.C.M., Senior Research Fellow; and Mark R.D. Johnson, Ph.D.; Michael Murray, B.Sc.; Martin Bland, M.Sc.; and Michael Banks, M.Sc., Lecturers, Department of Community Medicine, Medical School, St. Thomas's Hospital, London, England SE1 7EH. Phone: 928-9292.
Purpose: To study longitudinally children's smoking and respiratory symptoms.
Subjects: Approximately 6,000 school children, ages 11 to 12 in 1974, from 48 secondary schools in Derbyshire, who were followed yearly from 1974 to 1978; and their parents and head teachers, who were questioned in 1974 and 1978; and the teaching staff in the schools in 1974 and 1975.
Methods: The study, which began in 1974, involved the Department of Community Medicine of St. Thomas's Hospital and the Derbyshire Area Health and Education Authorities. The detailed methodology is reported in Publication (1) below.
Findings: Six percent of the boys and 2.5% of the girls were smoking one or more cigarettes a week. Children's smoking is associated with parents' or siblings' smoking. Boys were more likely to smoke if fathers smoked; girls, if mothers smoked. More money, mixing with a mixed sex peer group, and playing truant are associated with increased risk of smoking.
Duration: 1973-1980.
Cooperating group(s): Medical Research Council.
Publications: (1) Banks, M. ***et al.*** Long term study of smoking by secondary school children. ***Archives of Disease in Children,*** 1978, 53, 12-19. (2) Bland, M. ***et al.*** Effect of children and parent smoking on the respiratory system. ***Archives of Disease in Children,*** 1978, 53, 100-105.

42-FC-5 EVALUATION OF EXODUS DRUG PREVENTION PROGRAM

Investigator(s): Fred R. Crawford, Ph.D., Director, Center for Research in Social Change, Emory University, Atlanta, Georgia 30322. Phone: (404) 329-7525.
Purpose: To measure the efficacy, effectiveness, and efficiency of a special community-school based program to influence drug use of high school age persons from a black, disadvantaged neighborhood in Atlanta.
Subjects: 400 males and females, ages 14 to 22, half in public school and half attending a street academy.
Methods: Interviews were held with the students at designated points in the program, and service contracts were recorded for processing. Official records were kept of grades and school attendance. Participant observers and staff were asked for judgments of the students. Instruments used for assessment included Dean's Alienation, Semantic Differential Technique, and Rotter Internal-External Locus of Control Scale.
Findings: The program is swamped by changes favoring drug use in the external world. Drug use appears endemic today.
Duration: August 1977-July 1979.
Cooperating group(s): National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-FD-1 **ROLE TAKING SKILLS IN LEARNING DISABLED, EMOTIONALLY DISTURBED, AND NORMAL SCHOOL CHILDREN**

Investigator(s): William Sobesky, Ph.D., Assistant Professor, Department of Psychology, University of Denver, Denver, Colorado 80204; and Jill Waterman, Ph.D., Assistant Professor, Medical School; and Louise Silvern, Ph.D., Assistant Professor, Department of Psychology, University of Colorado, Boulder, Colorado 80302. Phone: (303) 492-8805.
Purpose: To assess the contribution of sociocognitive development to social adjustment in groups of children who have specific learning problems, or emotional problems, or neither.
Subjects: 20 children from normal classrooms; 40 children from self-contained classes for learning disabilities; and 39 children from self-contained classes for emotionally disturbed children. All subjects were white, middle or lower class children.
Methods: The children were tested individually on a cognitive role taking task, the Nickle-Dime Game developed by Flavell *et al;* a measure of affective perspective taking developed by the investigators; Slosson Quick Test of Intelligence (verbal IQ); and Raven Progressive Matrices (nonverbal IQ). Teachers and parents completed a measure of the Ferguson Behavior Checklist.
Findings: Emotionally disturbed children scored significantly lower than normals on both role taking measures. Learning disabled children fell in between, in spite of having IQs considerably lower than emotionally disturbed children. Some emotionally disturbed children had quite high role taking skills and these children appeared antisocial (vs. inhibited) on the teachers' checklists. While more inhibited behavior was associated with very low role taking within the normal group, high role taking was associated with good adjustment.
Duration: September 1976-December 1978.

42-FE-1 **CHANGES IN SEX ROLE STEREOTYPING IN CHILDREN'S TELEVISION PROGRAMS**

Investigator(s): Daniel J. Christie, Ph.D., Assistant Professor; and Robert A. Smith, B.A., Department of Psychology, Ohio State University, 1465 Mt. Vernon Avenue, Marion, Ohio 43302. Phone: (614) 389-2361.
Purpose: To examine children's television programs in terms of the frequency of male and female characters and the amount of sex role stereotyping.
Methods: After eliminating four television programs because females did not appear in them regularly, the six most popular programs according to Neilsen ratings for 1975-76 were examined: "Pebbles and BamBam," "Speed Buggy," "Land of the Lost," "Valley of the Dinosaurs," "Scooby Doo," and "Isis." The programs were videotaped once and then another version of each program was videotaped later. Sex stereotyped behaviors of the major and many of the minor characters were recorded first by one observer and then by another.
Findings: Results are consistent with previous research indicating that females are underrepresented in children's television. However, while still existing, the amount of sex role stereotyping in children's television is declining in comparison with the results of earlier studies.
Duration: September 1975-completed.
Cooperating group(s): Ohio State University, Marion Campus, Audio/Visual Services.
Publications: Information is available from the investigators.

42-FE-2 **DEVELOPMENTAL TRENDS IN THE USE OF NONVERBAL BEHAVIOR**

Investigator(s): Robert S. Feldman, Ph.D., Assistant Professor, Department of Psychology, Tobin 518, University of Massachusetts, Amherst, Massachusetts 01003. Phone: (413) 545-0130.
Purpose: To study the ontogeny and development of the ability to use, control, and monitor nonverbal behavior; and eventually to investigate the joint development of verbal and nonverbal communication skills.

Subjects: Males and females from age 3 through adulthood.

Methods: A number of studies are planned related to the development of the ability to monitor and control nonverbal behavior. This research grows out of work on the identification of nonverbal concomitants of verbal dissembling. It appears that adults reveal when they are being verbally deceptive through movements of their bodies, and to a lesser extent, through their facial expressions. On the other hand, young children's nonverbal behavior has been shown in a previous study to be markedly more revealing of verbal deception than that of adults. This suggests that with increasing age, individuals show less spontaneous nonverbal expressivity, but instead, gain increasing instrumental control of their nonverbal behavior. It seems reasonable that such enhanced control is related to increases in cognitive ability, particularly with respect to decreases in egocentric thinking and to the development of the skill of placing oneself in the position of an observer and seeing the situation from the observer's point of view (taking the role of the other). The planned studies will examine an hypothesized increase in the skill to present oneself effectively on a nonverbal level. In one series of studies, children, ages 3 to 15, will be told to say very positive things about an experience that is either pleasant or unpleasant. Thus, they will be either truthful or dissembling on a verbal level. Subjects will be videotaped, and their nonverbal behavior will be analyzed both by means of objective coding methods and by judgments of naive observers. Changes in the ability to be deceptive related to age of subject can then be determined. These studies will be followed by experiments that include independent assessments of cognitive ability, role taking skills, and measures such as child (and parent) Machiavellianism. Ultimately, it is anticipated that the development of both verbal and nonverbal communicative skills will be investigated jointly in a series of experiments.

Findings: It appears that there is a developmental trend in the nonverbal disclosure of deception. First graders reveal the fact that they are verbally deceptive more readily through their facial expressions than do 7th graders and adults.

Duration: January 1977-December 1980.

Cooperating group(s): University of Massachusetts Faculty Research Grants.

Publications: (1) Feldman, R.S. ***et al.*** Nonverbal cues as indicators of verbal dissembling. ***American Educational Research Journal*** (in press). (2) Feldman, R.S. Nonverbal disclosure of deception and interpersonal affect. ***Journal of Educational Psychology,*** 1976, 68, 807-816. (3) Allen, V.L. and Feldman, R.S. Nonverbal cues to comprehension: Encoding of nonverbal behaviors naturally and by role-play. Technical Report. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1976. (4) Allen, V.L. and Feldman, R.S. Decoding of children's nonverbal responses. Technical Report No. 365. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1976.

S4

SPECIAL GROUPS OF CHILDREN

Physically Handicapped

42-GA-1 EDUCATION, TRAINING, AND WORK OF THE HANDICAPPED IN GREATER BOMBAY

Investigator(s): Mandakini Khandekar, M.A., Dip. S.S.A., Head, Unit for Child and Youth Research, Tata Institute of Social Sciences, Post Box 8313, Deonar, Bombay, India 400 088.
Purpose: To collect some minimum data on the handicapped for selecting persons for the National Society for Equal Opportunities for the Handicapped (NASECH) vocational programs for the home bound; and to provide services to others depending on their handicap, age, sex, education, and training.
Subjects: 2,481 identified handicapped persons residing in the Greater Bombay area.
Methods: An enumeration of all the handicapped in Greater Bombay was originally planned; however, after covering only 43 localities, this plan had to be given up. The present data, collected from 1973 to 1975, includes a total of 2,481 identified handicapped persons. A pretested interview schedule was used, and forms were completed for each handicapped person.
Findings: According to the 1971 Census, the sex ratio (number of females per 1,000 males) in Greater Bombay was 719; among the handicapped, it was even lower – 546. (Reasons given for these discrepancies were people's reluctance to admit the presence of a handicapped woman, especially an adult woman in their family; and a lower percentage of women in general among the migrants who come to Bombay.) In 1971, 42% of Bombay's total population was children and teenagers, age 19 or less; but among the handicapped, they accounted for almost half of the total number. Of the handicapped over age 20, 40% were either heads of households or their spouses. Sixty-three percent of all the handicapped belonged to low income groups earning less than 50 rupees per month. The figures also showed that 43% and 34% of the boys and girls respectively, ages 5 to 9, were in school, while 65% and 52% of the boys and girls respectively, ages 10 to 14, were in school. This would seem to indicate that the handicapped usually had a late start in their education. Thirty-two percent of the men and 48% of the women over age 10 were illiterate; and 33% of the handicapped in higher income households and 34% of those living in flats were illiterate. A very high percentage of handicapped men (81%) and women (90%) were untrained. The sex-age-specific work participation rates (percentage of workers in a sex-age group to total number of persons in the same group) were:

Age group	Men	Women
15-19	10.8	2.2
20-29	37.5	10.3
30-39	52.5	8.4
40-49	48.1	3.2
50 or over	18.5	3.6

The data raised important questions dealing with the respective roles of special education and mainstreaming. The survey highlighted the problem of the handicapped person, who perceives he is a severely handicapped person and needs special attention. (Of those who were over age 14 and who had such a perception, 60.5% were illiterate.) Besides education, they would also need much counseling, especially when an objective assessment of their handicap was at variance with their perception. The low work participation rates for the handicapped was another area investigated that called for a vigorous program of placement services – both part-time and full-time jobs. A

wide spectrum of job opportunities with different types of skills and falling in different occupational categories was recommended to enable the handicapped to make choices depending on their job equipment, personal aptitudes, and aspirations. (About 67.8% didn't know about the city's employment exchange for the handicapped.) Finally, the data on sex-ratio suggest that the problem of what can be called "the nonacceptance of the handicapped at the cognitive level" exists and calls for an attitude changing program for normal persons.

Duration: 1973-1979.

Cooperating group(s): (1) S.N.D.T. University for Women, Bombay. (2) Government of India, New Delhi: Department of Social Welfare. (3) Christoffel Blinden Mission, West Germany.

Publications: Khandekar, M. Education, training, and work of the handicapped in Greater Bombay: Report on a survey conducted by the National Society for Equal Opportunities for the Handicapped. Bombay, India: Tata Institute of Social Sciences, 1978.

42-GB-1 SYNDROME IDENTIFICATION: A VERBAL-VISUAL CATALOGUE WITH COMPUTER ACCESS

Investigator(s): David Burton Pitt, M.D., B.S., F.R.A.C.P., Senior Lecturer; and David Danks, M.B., B.S., M.D., F.R.A.C.P., Chairman, Department of Pediatrics; and Roger Hall, B.D.Sc., L.D.S., M.D.Sc., FRACDS, Head, Dental Department, Royal Children's Hospital, University of Melbourne, Flemington Road, Parkville, Victoria, Australia 3052; and David Sillence, M.D., M.R.A.C.P., Assistant Research Pediatrician, Department of Pediatrics, School of Medicine, University of California, 760 Westwood Plaza, Los Angeles, California 90024.

Purpose: To collect photographic ensembles of anatomical details of dysmorphic children; and to record systematically these details for computer storage.

Subjects: Dysmorphic children referred for syndrome diagnosis and/or genetic counselling of parents to the Genetics Unit, University of Melbourne, Department of Pediatrics, Royal Children's Hospital. After 5 years' operation, 500 children had been referred to the Genetics Unit.

Methods: As children are referred, they are photographed, and anatomical and clinical details are transferred to punch cards for computer storage, using a FORTRAN Program for the computer work. To assemble as complete a photographic record as possible of the pediatric syndrome in each case, up to 14 standard views are photographed. As far as possible, patients are given a personal examination, and information is recorded on a computer sheet. In cases where the patient is not available, clinical records and photographs are used for the completion of the computer sheet.

Duration: 1972-continuing.

42-GB-2 DETECTION OF INTONATION IN HEARING IMPAIRED CHILDREN

Investigator(s): Trygg Engen, Ph.D., Department of Speech, Brown University, Providence, Rhode Island 02912. Phone: (401) 863-1000.

Purpose: To determine if hearing impaired children hear the differences in intonation important in understanding language; e.g., questions vs. statements.

Subjects: Severely (profoundly) hearing impaired children.

Methods: The methodology employed includes signal detection theory and psychophysics.

Findings: Hearing impaired children do have the ability to discriminate intonation carried by frequencies of below 500 Hz.

Duration: Spring 1978-continuing.

42-GB-3 **THE DEVELOPMENT OF A STANDARDIZED QUESTIONNAIRE FOR ASTHMA IN SCHOOL CHILDREN**

Investigator(s): Walter W. Holland, M.D., F.R.C.P., F.F.C.M., Director; and D.A. Bartley, B.S.C., M.B.C.H.B., Lecturer, Department of Community Medicine, School of Medicine, St. Thomas's Hospital, London, England SE1 7EH. Phone: 928-9292, Ext. 2010; and G. Horton, M.B., B.S., 33a Ellsworthy Road, Primrose Hill, London, England.
Purpose: To find a set of responses to a questionnaire that will delineate asthmatic children from their peers.
Subjects: A random sample of 3,500 boys and girls, ages 12 to 14, drawn from school records in a London area.
Methods: Asthma is defined as a fall in FEV_1 of 15% following 6 minutes of hard exercise and measured after 5 minutes' rest. All children in the sample answered a self-administered questionnaire on respiratory symptoms, and their parents answered another self-administered questionnaire asking similar questions about their children. A subsample of about 300 children, which was skewed toward those with the highest number of positive answers, was given the lung function test. Analysis will relate question responses to FEV_1 results, in order to find a few questions that will identify asthmatic children with acceptable sensitivity and specificity. Such a standardized epidemiological instrument would then be available for further research in asthma.
Duration: 1977-1979.

42-GC-1 **A DESCRIPTIVE ANALYSIS OF CHANGES IN READING BEHAVIOR EXHIBITED OVER TIME BY HEARING IMPAIRED CHILDREN**

Investigator(s): Carolyn Ewoldt, Ph.D., Research Specialist, Kendall Demonstration Elementary School, Gallaudet College, 7th and Florida Avenue, N.E., Washington, D.C. 20002. Phone: (202) 447-0748.
Purpose: To analyze the signed or oral reading and retelling of stories by hearing impaired children (whose educational background has been primarily oral), in order to identify changes in reading strategies exhibited at 6-month intervals after they enter a total communication educational setting.
Subjects: Seven girls and six boys with hearing impairments, ages 12.2 to 13.4, from a primarily oral educational background.
Methods: Videotapes were made of the children's oral and/or signed reading and retelling of a story shortly after their admission to a total communication school. Additional videotapes of the reading and retelling of additional stories will be made at 6-month intervals for 2 years. These videotapes will be transcribed and verified by a team of hearing and deaf researchers. Miscue analysis of the reading of the stories will follow a taxonomy adapted (Ewoldt, 1977) from that of Goodman, 1976. Analysis of the retellings will follow the procedures used by Goodman, and the stories read will be subjected to some current form of discourse analysis.
Duration: September 1977-August 1979.
Cooperating group(s): Gallaudet College, Kendall Demonstration Elementary School, Research Division.

42-GC-2 **A DESCRIPTIVE ANALYSIS OF READING BEHAVIORS EXHIBITED BY HEARING AND HEARING IMPAIRED CHILDREN**

Investigator(s): Carolyn Ewoldt, Ph.D., Research Specialist, Kendall Demonstration Elementary School, Gallaudet College, 7th and Florida Avenue, N.E., Washington, D.C. 20002. Phone: (202) 447-0748.

Purpose: To analyze the signed and/or oral reading of hearing and hearing impaired children reading the same stories to determine whether these readers make similar miscues (unexpected responses to the print) in the same sentences; to discover how their strategies for reading the stories are similar and different; and to analyze the effect of the stories on the recall of these stories by these readers.

Subjects: 22 third grade hearing children: 13 boys and 9 girls, ages 8.8 to 10.1; 13 hearing impaired children: 7 girls and 6 boys, ages 12.2 to 13.4, from a primarily oral education background; and 16 hearing impaired children from a primarily total communication background: 5 boys and 5 girls, ages 12.6 to 13.4; and 3 girls and 3 boys, ages 6.2 to 8.11.

Methods: Audiotapes were made of the hearing children's oral reading and retelling of one of four stories. These tapes were transcribed and verified by a team of hearing researchers. Videotapes were made of the hearing impaired children's oral or signed reading and retelling of one of the same stories. These tapes are being transcribed and verified by a team of hearing and deaf researchers. Miscue analysis of the reading of the stories will follow a taxonomy adapted from Goodman. Analysis of the retellings will follow the procedures used by Goodman, and the stories read will be subjected to some current form of discourse analysis.

Duration: September 1977-June 1979.

Cooperating group(s): Gallaudet College, Kendall Demonstration Elementary School, Research Division.

Publications: (1) Ewoldt, C. A psycholinguistic description of selected deaf children reading in sign language. Unpublished doctoral dissertation. Wayne State University, 1977. (2) Ewoldt, C. ***Miscue analysis of the reading of third grade Follow Through and Non-Follow Through children in Wichita, Kansas.*** Tucson: Arizona Center for Educational Research and Development, October 1976. (ERIC Document Reproduction Service: ED 136 219; C5 003 274.)

I2-GE-1 THE EDUCATIONAL NEEDS AND MANAGEMENT OF SPINA BIFIDA AND HYDROCEPHALIC CHILDREN

Investigator(s): J. Elkins, Ph.D., Senior Lecturer; and R.J. Andrews, Ph.D., Reader, Schonell Educational Research Centre, University of Queensland, St. Lucia, Queensland, Australia 4067.

Purpose: To survey all hydrocephalic and/or spina bifida children in the state of Queensland; to identify educational and related needs of the children and their families; and to study and evaluate the success of mainstream placement of the children.

Subjects: Approximately 200 children, ages 0 to 18, residing in the state of Queensland and identified as hydrocephalic and/or spina bifida (included are those in residential care facilities).

Methods: Intensive psychological and educational case studies of the children will be undertaken to give information on the present educational and social functioning of the children. Cognition, educational achievement, language, mobility, and personality factors will be assessed. Actual assessment procedures will give recognition to the age range and the varying degrees of handicap of the study population. Medical histories and current medical management data will be detailed, including information on surgical intervention, to provide data on the medical characteristics of the children. Social histories and evaluation will include data on social acceptance by families, parental knowledge, orientation to spina bifida, handling and expectations, parental attitudes toward the child, and the development of peer contacts and acceptance. The social implications of early medical management will be examined; e.g., the result of separation of parents and child. A great deal of the information required for this study will be obtained from existing records, available within Queensland hospitals, clinics, and schools.

Findings: While direct medical services were reported by parents to be satisfactory, inadequate ancillary services related to outpatient clinics, coordination of services, etc. may well be adding to the emotional and physical demands a severely handicapped child places on parents. In the same way, regular schools must become increasingly responsive not only to the basic educational needs of these children, but also assist in the recognition of the specific skill deficiencies which may be identified in the patterns of their test scores; e.g., visual-motor skill scores. While many children and adolescents with spina bifida and hydrocephalus will perform satisfactorily in regular school

programs, many will require special educational assistance either within regular schools or within special schools. Evidently 40 percent of this group have at least mild levels of mental retardation, and appropriate educational planning and assistance will be required for them regardless of educational setting.

Duration: 1977-1978.

Cooperating group(s): (1) Education Research and Development Committee, Australia. (2) Queensland Spina Bifida Association.

Publications: (1) A paper presented at the Annual Conference of the Australian Group for the Scientific Study of Mental Deficiency, Gold Coast, September 1978: Andrews, R.J. and Burge, J.A. Spina bifida, hydrocephalus and mental retardation. (2) A paper presented to the Ninth International Congress of the International Association for Child Psychiatry and Allied Professions, Melbourne, August 1978: Andrews, R.J. and Elkins, J. Society's response to new handicapped children: Spina bifida and hydrocephalus. (3) Andrews, R.J. ***et al.*** The educational needs and management of spina bifida and hydrocephalic children. Part I. Schonell Educational Research Centre, University of Queensland, 1978.

42-GE-2 AN INVESTIGATION OF THE RELATIONSHIP BETWEEN COGNITIVE PERFORMANCE IN READING, MATHEMATICS, AND LANGUAGE ARTS AND SELECTED DEMOGRAPHIC CHARACTERISTICS OF HEARING IMPAIRED STUDENTS

Investigator(s): Bryan R. Clarke, Ph.D., Professor, Special Education; W. Todd Rogers, Ph.D., Assistant Professor, Educational Psychology; and P.T. Leslie, Ed.D., Associate Professor, Faculty of Education, University of British Columbia, 2075 Wesbrook Mall, Vancouver, British Columbia, Canada V6T 1W5. Phone: 228-6446.

Purpose: To collect and analyze achievement data in the subject areas of reading and mathematics and syntactic ability of all hearing impaired students in British Columbia; and to determine relationships, if any, with selected demographic characteristics.

Subjects: 202 males and 181 females, ages 7 to 20, known to have a hearing loss with some sensorineural component, known to have been fitted with a hearing aid, and/or in need of special educational treatment.

Methods: The Stanford tests were administered in the Spring and Fall of 1977 and the Tests of Syntactical Abilities in the Spring of 1978 to a provincial sample of hearing impaired students enrolled in school. Demographic data were collected in conjunction with the Stanford data and updated at the time the Test of Syntactical Abilities was administered. Two-way analysis of variance was used to examine differences in levels of performance among groups defined by age and severity of loss. The relationship was examined between the dependent variables (vocabulary, reading comprehension, and mathematics computation, and applications and concepts as measured by the Stanford Achievement Battery adapted for the hearing impaired) and each of the remaining independent variables (age, average hearing loss, additional handicaps, gender, age at onset, primary language, school integration, itinerant service, communication method, and use of hearing aid). Analyses of covariance were used with age and severity of hearing loss serving as covariates. Finally, using a combined priori-stepwise regression analysis, the relationship was investigated between the dependent variables and the independent variables considered simultaneously.

Findings: Age, severity of loss, additional handicaps, and school integration emerged as the most consistent independent variables that were related significantly to the dependent variables.

Duration: March 1977-September 1978.

Cooperating group(s): British Columbia Provincial Government, Ministry of Education.

Publications: (1) Clarke, B.R. and Rogers, W.T. The syntactic ability of hearing impaired students in British Columbia. ***British Columbia Journal of Special Education*** (in press). (2) Clarke, B.R.; Leslie, P.T.; Rogers, W.T.; Booth, J.A.; and Horvath, A Collection of achievement data on hearing impaired students in British Columbia. ***British Columbia Journal of Special Education,*** 1978, 2, 9-12. (3) Clarke, B.R.; Leslie, P.T.; Rogers, W.T.; Booth, J.A.; and Horvath, A. Selected characteristics of hearing impaired school age students. Unpublished paper. University of British Columbia, 1977.

42-GE-3 METHODS FOR LANGUAGE DEVELOPMENT IN OLDER DEAF STUDENTS

Investigator(s): D.J. Power, Ph.D., Director of Research; and Anne Hollingshead, B.A., Research Associate, Institute of Special Education, Burwood State College, 221 Burwood Highway, Burwood, Victoria, Australia 3125. Phone: (03) 2850-327.

Purpose: To develop model methods for teaching language to older hearing impaired students for dissemination among schools and services for the hearing impaired.

Subjects: A large number of pupils, ages 10 to 16, in Australian schools for the deaf were used in developing the project materials.

Methods: The project methods involved the researchers working closely with teachers in schools for the deaf to develop and test materials and methods for teaching single syntactic structures (e.g., the passive voice) to deaf students older than age 10. Materials developed for each structure included games and activities for learning the structure and programmed instruction tests and workbooks. The Test of Syntactic Abilities was used as a diagnostic pretest and as a criterion measure for success on the tasks.

Findings: A theoretical and practical basis for teaching language structures to hearing impaired children has evolved.

Duration: January 1976-December 1978.

Cooperating group(s): Australian Education Research and Development Committee.

Publications: (1) Power, D.J. ***Approaches to language curriculum development for schools for the deaf.*** Burwood: Institute of Special Education, 1978. (2) Power, D.J. and Hollingshead, M.A. Methods for language development in deaf students. 1. The passive voice. ***Burwood State College Papers in Special Education,*** No. 4, 1977. (3) Power, D.J. and Hollingshead, M.A. Methods for language development in deaf students: 2. Verb phrase negation. ***Burwood State College Papers in Special Education,*** No. 5. (No date indicated)

42-GE-4 SOCIAL AND COMMUNICATIVE DEVELOPMENT OF DEAF CHILDREN

Investigator(s): Mark T. Greenberg, Ph.D., Assistant Professor, Department of Psychology, NI-25, University of Washington, Seattle, Washington 98195. Phone: (206) 543-4339.

Purpose: To examine the effects of profound childhood deafness on the development of social and communicative behavior and family attitudes and stress during the preschool years; and to compare oral and total (oral plus manual) communication.

Subjects: 28 profoundly deaf children, ages 3 to 5½, with normal IQs. (14 children are oral communicators; 14 are total communicators and have greater than 80 db loss in the better ear averaged across the speech range.)

Methods: The study included a comparison between total (oral + manual) and oral deaf children and their families. Major assessment included a laboratory observation of mother-child interaction that was analyzed for both bouts of social interaction and a language analysis of pragmatic functions. Included were two sequences of mother-child separation to assess the quality of the attachment relationship. Videotape analyses were made of social interaction and pragmatic categories of communication. Parents were interviewed and given the Eysenck Personality Inventory, Hereford Parent Attitude Survey, and the Alpern-Boll Developmental Profile.

Findings: Children with early introduction to total communication showed more meshed and cooperative interaction with their mothers during free play. Children with early intervention, both oral and total, had higher communication skills and more mature attachment relationships. Parents of total communicators report less stress.

Duration: January 1977-June 1979.

Cooperating group(s): (1) Gallaudet College. (2) University of Virginia.

Publications: (1) Greenberg, M.T. and Marvin, R.S. Attachment patterns of preschool deaf children. ***Merrill-Palmer Quarterly*** (in press). (2) A paper presented at a meeting of the American Speech and Hearing Association, San Francisco, November 1978: Greenberg, M.T. Channel usage and communicative competence in deaf preschoolers.

42-GE-5 WORK AND SOCIAL ADJUSTMENT OF THE DEAF

Investigator(s): Hilde S. Schlesinger, M.D., Director; Ellen Y. Siegelman, Ph.D., Research Director; and Hermine Marshall, Ph.D., Research Specialist, Center on Deafness, University of California, 1474 Fifth Avenue, San Francisco, California 94143. Phone: (415) 731-9150; and Kathryn P. Meadow, Ph.D., Director of Research, Kendall Demonstration Elementary School, Gallaudet College, Washington, D.C. 20002.

Purpose: To describe the vocational success and general well-being of a group of young deaf adults who are still in relatively early career stages, as a part of a 10-year follow-up study of deaf school children; to relate earlier obtained measures of self-image, psychosocial adjustment, communication skills, academic achievement, family climate and history to vocational success; and to use such relationships as a guide to the possible modification of early experiences so that deaf students will have a better probability of achieving vocational success.

Subjects: As many as possible of the original 118 subjects (now ages 18 to 33) from the 1966 study at the California School for the Deaf, Berkeley. Two subjects have died, leaving a potential population of 66 males and 50 females. Originally, 59 children with deaf parents formed the base population. Each was matched on sex, age, IQ, degree of residual hearing, and family size with a child whose mother and father were hearing. Some attempt was made to equate family socioeconomic status. Children of hearing parents were eliminated if they had: deaf siblings, a secondary handicap, deafness after age 2, etiology of maternal rubella, Rh incompatibility, or anoxia, or racial or ethnic minority group membership.

Methods: An interview schedule has been devised that focuses on (1) educational and vocational attitudes, adjustment, and aspirations; (2) attitudes toward deafness and toward family relationships; and (3) social and communicative functioning. The interview will be administered by two research assistants who are fluent in Ameslan and Signed English. A measure of self-concept is being refined currently for use with the deaf subjects. A Communications Skills Profile is being refined for interviewers to rate subjects' communication competence. Information from these sources will be correlated with earlier measures of self-concept (Meadow Self-Image Scale), achievement (Stanford Achievement Test), and communicative functioning (Craig Lipreading Inventory, teacher ratings). Some of this information will be compared also with the data from the National Census of the Deaf (Schein and Delk, 1974). Also, data will be examined for differences between the children of deaf parents and children of hearing parents.

Findings: Findings from the initial study indicated that deaf children of deaf parents performed significantly better than deaf children of hearing parents on measures of intellectual and social functioning and on most measures of communicative functioning. However, no differences were found on ratings for speech-reading and speech.

Duration: October 1977-September 1980.

Cooperating group(s): (1) Training Program in Personality and Social Structure: National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Research and Training Center Grant: Rehabilitation Services Administration; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

Publications: (1) Schlesinger, H.S. and Meadow, K.P. ***Sound and sign.*** University of California Press, 1972. (2) Meadow, K.P. Early manual communication in relation to the deaf child's intellectual, social, and communicative functioning. ***American Annals of the Deaf,*** January 1968.

42-GG-1 BIRTH CRY INVESTIGATION

Investigator(s): Rita S. Weiss, Ph.D., Professor; and Ned W. Bowler, Ph.D., Professor, Department of Communication Disorders and Speech Science, University of Colorado, 934 Broadway, Boulder, Colorado 80309. Phone: (303) 492-8727.

Purpose: To detect minimal brain dysfunction and/or later communication problems through objective early identification by gathering tape recording data on acoustic patterns of spontaneous birth cries from at risk and normal neonates and by analyzing the tape recordings using acoustic analysis instrumentation to determine differences between the birth cry patterns from the risk and normal babies.

Subjects: 42 neonates recorded on tape during August 1976: Six neonates recorded in one delivery room at Boulder Memorial Hospital in order to pilot test instrumentation and methodology; and 36 neonates recorded in two delivery rooms at Colorado General Hospital, Denver.

Methods: The spontaneous cries (from nonaversive stimuli) of the 36 neonates were recorded using (1) a Sony TC 277-4, four-channel stereo tape recorder, using 3M Scotch recording tape; (2) a Sennheiser microphone, Model MD 441; (3) two Electrovoice 666 microphones; (4) DBX noise reduction system, Model 157; and (5) an AMPEX amplifier, Model 622 used to monitor playback. The tape recorded cries will be analyzed in terms of periodicity, placement and intensity of harmonics, and overall cry pattern by sound spectrographic analysis, using the Kay Sona-Graph, Model 661. This instrument allows for a 2.4-second signal sample and has a frequency range of 80Hz-8,000Hz. The narrowband filter is used which has a 45Hz bandwidth. The HS shaping filter is also being used for this analysis. Acoustic analysis has been accomplished using a sound spectrograph, an oscillograph, and a computer facility. Sound spectrograms by visual analysis have been made for selected portions of the birth cry for all 42 neonates. Spectral analysis is also being accomplished using an Analog-to-digital converter specifically built to make computer-based Fourier analyses of the data. These acoustic data then will be correlated with the double blind medical designations of risk status of the neonates recorded.

Findings: The most current data are those on duration and fundamental frequency. Eight neonates have been analyzed for durational features and fundamental frequency (pitch). Results are similar to findings previously reported in the literature. However, considerable variability has been observed that requires closer examination.

Duration: October 1976-April 1979.

Cooperating group(s): University of Colorado, Council on Research and Creative Work Grants-in-Aid.

42-GG-2 ELECTROENCEPHALOGRAPHIC STUDIES IN RELATIONSHIP TO BEHAVIOR DISORDERS IN CHILDREN

Investigator(s): George N. Thompson, M.D., Associate Clinical Professor, School of Medicine, University of California, Irvine, California 92664; and Private Practice, 2010 Wilshire Boulevard, Suite 607, Los Angeles, California 90057. Phone: (213) 483-7863.

Purpose: To determine electroencephalographic correlates with behaviors in children.

Subjects: Children, ages 5 to 15.

Methods: Psychological studies, neurological examinations, and psychiatric examinations are correlated with electroencephalographic studies.

Duration: March 1978-March 1980.

Publications: Thompson, G.N. ***The psychotic delinquent and criminal.*** Springfield, Illinois: Charles C Thomas, 1970.

42-GG-3 REHABILITATION ENGINEERING

Investigator(s): William Berenberg, M.D., Professor of Pediatrics; and Melvin Glimcher, M.D.; John Hall, M.D.; and Sheldon Simons, M.D., Professors of Orthopedics, Harvard Medical School, Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Massachusetts 02115. Phone: (617) 277-9250.

Purpose: To apply the advances of engineering technology toward collaborative research in order to improve rehabilitation technology.
Subjects: Cerebral Palsy Group: Approximately 1,000 patients with various kinds of cerebral palsy. Scoliosis Group: Approximately 2,000 patients – predominantly adolescent females with advanced scoliosis.
Methods: The methodology includes (1) computerized gait laboratory analysis, (2) revision of engineering technology employed in operative and nonoperative management of scoliosis, (3) orthotic devices for correction of deformities of multiple kinds, and (4) quantitative measurements of spasticity.
Findings: Preliminary results indicate that computerized gait analysis has been hopeful in defining kinds of indicated operative procedures or selecting those patients for whom surgery should not be done. Orthotic improvements resulted in corrective measures for genurecurvatum. Strain gauge measurements are being utilized to analyze stress effects from scoliotic corrective implantations.
Duration: 1975-1980.
Cooperating group(s): (1) Rehabilitation Services Administration; Office of Human Development Services; U.S. Department of Health, Education, and Welfare. (2) William Randolph Hearst Foundation. (3) Charles A. Dana Foundation.

42-GG-4 VITAMIN E, PREMATURITY, AND RETROLENTAL FIBROPLASIA

Investigator(s): Lois Johnson, M.D., Director, Neonatal Research, Pennsylvania Hospital, 8th and Spruce Streets, Philadelphia, Pennsylvania 19107. Phone: (215) 829-3303.
Purpose: To compare the effect of high doses of Vitamin E with placebo, in equivalent doses, on the incidence, severity, and long-term sequelae of retrolental fibroplasia (RLF). The definition of high dosage of Vitamin E will be the maintenance of plasma concentrations of Vitamin E in the 5 to 7 mg% range.
Subjects: Over 2 years an estimated maximum number of 900 premature infants at risk for developing RLF selected randomly.
Methods: The infants will be assigned to treatment with Vitamin E by slow intravenous infusion, by intramuscular injection, and/or oral intake. The most appropriate route of administration will be selected based on the child's clinical condition. Levels of Vitamin E in the serum will be raised to 5-6 mg% and maintained at this level throughout the period of retinal vascular immaturity or active retinal disease. At the same time, examination of the infant's fundi by indirect opthalmoscopy will be performed by a research pediatric ophthalmologist or his designate. Subsequently, the long-term visual outcome will be assessed at ages 1, 2, and 3 years. In addition to protection against RLF, protection against the toxic effects of oxygen on the lungs is expected to result from the treatment program outlined. The name given to pulmonary oxygen damage as seen in premature infants with respiratory distress is "bronchopulmonary dysplasia." A statistical analysis will be performed after data on 650 babies have been collected. The results of this analysis will determine the nature and extent of future studies.
Findings: See Publications below – No. (5).
Duration: Hoffman LaRoche pilot studies: 1972-1976.
Present study: 1978-1983.
Publications: (1) Johnson, L. ***et al.*** Factors predisposing to RLF-complications of pregnancy. ***Pediatric Research,*** April 1978 Program Issue, Abstract #794. (2) Johnson, L. ***et al.*** Influence of Vitamin E treatment (Rx) and adult blood transfusions on mean severity of retrolental fibroplasia (MS-RLF) in premature infants. ***Pediatric Research,*** 1977, 11(535), Abstract #983. (3) Johnson, L. ***et al.*** The role of Vitamin E in retrolental fibroplasia II. ***Pediatric Research,*** 1976, 10(426), Abstract #749. (4) Johnson, L. ***et al.*** The role of Vitamin E in retrolental fibroplasia. ***Pediatric Research,*** 1976, 10(425), Abstract #748. (5) Johnson, L.; Schaffer, D.; and Boggs, Jr., T.R. The premature infant, Vitamin E deficiency and retrolental fibroplasia. ***American Journal of Clinical Nutrition,*** 1974, 27, 1158-1173.

42-GG-5 BIOCHEMICAL DEVELOPMENT OF LUNG

Investigator(s): Louis Gluck, M.D., Professor; and Marie V. Kulovich, Associate Research Biochemist, Department of Pediatrics, C-019 School of Medicine, University of California, La Jolla, California 92093. Phone: (714) 452-4424 or 294-6585.
Purpose: To study the development and maturation of lung of the human fetus (primarily of lung surfactant) utilizing the information to prevent prematurity in order to prevent hyaline membrane disease or to treat hyaline membrane disease more effectively should it occur.
Subjects: Pregnant women in all stages of gestation; premature newborns; and full-term newborns.
Methods: Researchers had established previously that measurement of the surfactant phospholipids in amniotic fluid is a valid, excellent model for the study of developing fetal lung. From this, the lecithin/sphingomyelin (L/S) ratio has been used worldwide to judge when the fetal lung is mature enough for safe delivery, if necessary. These studies now have been extended to include other surfactant measurements, including percentages of disaturated lecithin, phosphatidyl inositol (PI), and phosphatidyl glycerol (PG) into a Lung Profile.
Findings: Accelerated maturation of lung can occur without mature L/S ratios but early appearance of PG. Mothers with gestational diabetes have fetuses with delayed maturation characterized by prolongation of high PI levels and delay in appearance of PG. The Lung Profile increases the accuracy of prediction of lung maturity to about as close to 100% as a biological test can be.
Duration: 1964-continuing.
Cooperating group(s): National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: A list of publications is available from the investigator.

42-GG-6 CHANGING EFFECTS OF HEMISPHERECTOMY

Investigator(s): Aaron Smith, Ph.D., Director, Neuropsychological Laboratory, University of Michigan, 1111 East Catherine Street, Ann Arbor, Michigan 48109. Phone: (313) 764-8455.
Purpose: To document and define principles of development and organization of higher (cognitive) and lower (sensory and motor) level cerebral functions in children with pre-, peri- and early postnatal brain insults before and after hemispherectomy.
Subjects: Approximately 60 to 70 infantile hemiplegics, approximately half male, half female, tested initially (and subsequently retested in many cases) from ages 6 to 40.
Methods: Neuropsychological examinations are conducted and a standardized test battery is administered which includes comprehensive measures of higher level cerebral functions (cognitive, memory, and language) and lower level cerebral functions.
Duration: 1966-continuing.
Cooperating group(s): Neurosurgeons and neurologists in the United States, Canada, and Great Britain.
Publications: (1) A paper presented at the 5th Annual Meeting of the International Neuropsychological Society, Santa Fe, February 1977: Smith, A. Language and nonlanguage functions after right or left hemispherectomy for cerebral lesions in infancy. (2) A paper presented at the Second Annual Meeting of the International Neuropsychological Society, Boston, February 1974: Smith, A. Related findings in neuropsychological studies of patients with hemispherectomy. (3) A paper presented at the 84th Annual American Psychological Association Convention, Washington, D.C., September 1967: Smith, A. Differing effects of hemispherectomy in children and adults. (4) Information is available from the investigator.

42-GG-7 EFFECTS OF ANTIEPILEPTIC DRUGS ON COGNITIVE, MOTOR, PHYSICAL, AND SOCIAL DIMENSIONS IN EPILEPTIC CHILDREN

Investigator(s): John S. Werry, M.D., Professor and Head; and M.G. Aman, Ph.D., Research Officer, Department of Psychiatry, Auckland Medical School, University of Auckland, Auckland 1, New Zealand.

Purpose: To study the effects of two antiepileptic drugs (phenytoin and carbamazepine) upon cognitive, intellectual, motor, and behavioral function in epileptic children.

Subjects: Children, ages 5 to 12, who for medical reasons are either terminating or initiating drug treatment for epilepsy.

Methods: Since phenytoin and carbamazepine are regarded locally as equally efficacious in the disorders studied, the children's groups can be matched to ensure comparability. The size of the groups will be contingent upon logistical considerations of locating suitable participants. Although the ability of carbamazepine (Tegretol) and phenytoin (Dilantin) to control seizure activity has been well documented, the effects of these agents on psychological factors in childhood are virtually unstudied. This study will enlist children who are about to initiate or terminate with either of the medications. Baseline measures will be obtained and then the children will be followed up to 2 years after treatment is altered (medication begun or withdrawn). Changes will be monitored by employing a broad battery of tests that is of proven sensitivity in drug trials. These tests include (1) a variety of cognitive tests designed to measure attention span, short-term memory, and visual analysis; (2) rating scales of behavioral adjustment filled out by doctor, parents, and teachers; (3) self-ratings by the children relating to mood states; (4) measures of physical effects including height, weight, blood pressure, heart rate; and (5) measures of motor function intended to detect resting and intention tremor. This trial is intended to provide a definitive comparison of the two drugs under study. Additionally, although a control group is inadmissible for ethical reasons, the data should be highly suggestive regarding the effects of these drugs in comparison to no treatment.

Duration: December 1978-January 1982.

Cooperating group(s): Child Health Foundation, New Zealand.

Mentally Retarded

42-HB-1 CHILDREN'S ADAPTIVE BEHAVIOR SCALE DEVELOPMENT

Investigator(s): Henry Leland, Ph.D., Director of Psychology; and Mandanna Shoaee, Ph.D., Chief Field Director, Nisonger Center, Ohio State University, 1580 Cannon Drive, Columbus, Ohio 43210. Phone: (614) 422-9605.

Purpose: To develop an effective and efficient instrument (Children's Adaptive Behavior Scale) that will permit the assessment of developmental and adaptive processes on which estimates of infants' and preschool children's handicaps can be based.

Subjects: 2,160 infant boys and girls, ages 2 weeks through 6 years, who are mildly to moderately developmentally disabled and severely and profoundly developmentally disabled. Infants were drawn from 10 states: Oregon, California, Minnesota, Texas, Missouri, Ohio, Pennsylvania, Louisiana, Connecticut, and Massachusetts.

Methods: A Children's Adaptive Behavior Scale was developed following the basic scale development design used by the AAMD Adaptive Behavior Scale. After the item pool was developed and tested in the Columbus, Ohio area (CABS I), the scale was tested nationally (CABS II) to determine (1) the clarity of the items, (2) if the items discriminated between different levels of adaptation with MR and DD infants, and (3) if the items could be ordered developmentally sufficiently well to aid in the development of individual educational plans and individual habilitation plans for infants and preschool children.

Findings: CABS I has been developed, tested, and modified; and the CABS II has been readied for national testing. A manual for training the national testers and ancillary materials have been developed.

Duration: October 1977-September 1979.

Cooperating group(s): (1) Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare. (2) American Association on Mental Deficiency.

Publications: The final Scale and Manual reliability and validity data, etc. will be published with the cooperation of the American Association on Mental Deficiency.

42-HB-2 COMPETENCY ASSESSMENT

Investigator(s): Jeanne Brooks-Gunn, Ph.D., Research Scientist and Associate Director; and Michael Lewis, Ph.D., Professor and Director, Institute for the Study of Exceptional Children, Educational Testing Service, Princeton, New Jersey 08541. Phone: (609) 921-9000, Ext. 2603 or 2738.

Purpose: To develop the Competency Assessment Profile, a battery of assessment tools designed to measure the skills of handicapped infants and young children across cognitive, socioemotional, and communicative domains; to collect a substantial body of new data about the functioning and development of handicapped infants; and to develop intervention strategies for handicapped infants based upon the assessment battery developed.

Subjects: 85 boys and girls, ages 3 to 36 months, who fall into one of three handicap groups: Down's Syndrome, motor impairment compounded by mental delay, or developmental delay.

Methods: The Competency Assessment Project is a collaborative effort of the Educational Testing Service (ETS), Institute for the Study of Exceptional Children and Hunter College, Special Education Development Center. The Institute is responsible for the development and field testing of the Competency Assessment Profile (CAP) and for the collection and analysis of basic research data on handicapped infants. Hunter College is involved in the development of curriculum strategies related to the CAP. CAP includes standard infant assessment instruments, adapted where necessary for a handicapped population, as well as research measures that appear to have potential for clinical use. The cognitive measures included in the battery are: the Bayley Scale of Infant Development, Development of Visual Pursuit and Permanence of Objects (Uzgiris and Hunt, 1975), Development of Means for Obtaining Desired Environmental Events (Uzgiris and Hunt, 1975), and an Attention Measure (Lewis, 1971). The socioemotional measures included in the battery are: Carey Scale of Infant Temperament (1970), Scale of Mother-Infant Interaction (Lewis and Lee-Painter, 1974), Self-Recognition Task (Lewis and Brooks, in press), and the Socioemotional Development Scale (Lewis and Michalson, 1975). Communication skills were measured using the CAP Language Scale (adapted from ***Assessing language skills in infancy: A handbook for the multi-dimensional analysis of emergent language,*** Bzoch and League, 1971, 1978). During the past 2 years, the CAP has been field tested in New York and New Jersey programs for handicapped infants. The Special Education Development Center, meanwhile, has been developing and field testing curriculum activities based on the CAP.

Findings: Preliminary findings are discussed in Publications (1) and (2) below.

Duration: July 1976-July 1979.

Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

Publications: (1) A paper presented at the Eastern Psychological Meetings, Washington, D.C., April 1978: Hawryluk, M.K. and Lewis, M. Attentional patterns in infants with Down's Syndrome: A preliminary investigation. (2) A paper presented at the Eastern Psychological Association Meetings, Washington, D.C., March 1978: Shapiro, J. and Brooks-Gunn, J. Temperament characteristics of handicapped infants.

42-HB-3 **RESEARCH AND DEVELOPMENT OF SUBJECTIVE VISUAL ACUITY ASSESSMENT PROCEDURES OF SEVERELY HANDICAPPED PERSONS**

Investigator(s): Charles R. Spellman, Ed.D., Associate Specialist; and Terry J. DeBriere, M.S., Junior Scientist, Parsons Research Center, University of Kansas, P.O. Box 738, Parsons, Kansas 67357. Phone: (316) 421-6550, Ext. 390.
Purpose: To develop an alternative testing method for visual acuity assessment, utilizing operant conditioning techniques similar to those employed in operant audiology, which would permit the evaluation of the majority of the now difficult-to-test population; and to make the assessment procedure and materials generally available to the consumer population within 3 years.
Subjects: 350 moderately and severely retarded individuals, ages 5 to 60.
Methods: The discrimination training and visual acuity testing procedures initiated by Project MESH will continue to be developed and evaluated. Individuals already successfully evaluated via standard procedures by optometrists and ophthalmologists will be tested for comparison and standardization of the experimental results. Experimental procedures, prototype apparatus, training material, and an instructional manual will be field tested, and the dissemination format will be evaluated. Alternate response modalities for severely orthopedically handicapped persons will be designed, tested, and validated. The subjective visual acuity testing procedures will be disseminated to between 15 and 20 regional centers throughout the nation. Marketing sources for reproducing subjective visual acuity testing equipment and material will be identified and selected to make them commercially available.
Duration: June 1976-May 1979.
Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-HE-1 **A TWO-YEAR FOLLOW-UP OF READING RETARDED CHILDREN**

Investigator(s): M.G. Aman, Ph.D., Research Officer, Department of Psychiatry, Auckland Medical School, University of Auckland, Auckland 1, New Zealand.
Purpose: To relate reading gains in severely reading retarded children to a large body of variables having possible predictive value.
Subjects: 33 children with severe reading problems who were tested initially 2 years ago in a comparison of reading retarded and matched control subjects – 30 children have returned to the laboratory for this follow-up reassessment.
Methods: The initial battery emphasized cognitive measures but also included neurological, demographic, behavioral (rating scale derived), and linguistic variables. This investigation will determine to what extent the variables obtained 2 years previously predict eventual gains in reading. Multiple regression techniques will be used in which original reading attainment and age have been partialled out.
Duration: September 1978-June 1979.
Cooperating group(s): Medical Research Council of New Zealand.

42-HH-1 **PROGRAMS FOR SEVERELY AND PROFOUNDLY MENTALLY RETARDED CHILDREN AND YOUTH**

Investigator(s): Beth Stephens, Ph.D., Head; and Dianne Ferrara, Ph.D., Project SPICY Co-Director, Special Education Program, University of Texas, Box 688, Richardson, Texas 75080. Phone: (214) 690-2251.
Purpose: To develop effective training techniques for severely/profoundly mentally retarded children, their parents, and the educational service delivery staff involved in their public school education.

Subjects: 11 children, ages 6 to 10; 8 children, ages 11 to 15; and 3 children, ages 16 to 21, diagnosed as severely mentally retarded; and 13 children, ages 6 to 10; 4 children, ages 11 to 15; and 7 children, ages 16 to 21, diagnosed as profoundly mentally retarded.

Methods: This national demonstration program for severely/profoundly mentally retarded children and youth, ages 6 to 21, is scheduled to operate for a 3-year period and will focus on 50 children, their teachers, and parents. The first year emphasized staff and parent training; during the 2 subsequent years, training will continue but the major emphasis will be on dissemination and demonstration of the model to educators from school systems throughout the nation. The project has combined both research and demonstration and therefore has involved (1) data collection regarding effectiveness of training; (2) pupil, parent, and teacher change; and (3) creation of training manuals and tapes. Formal staff training is accomplished via summer institutes, early release, and in-service days. Informal classroom training and the provision of consultant time by recognized professionals are also furnished. It is possible for staff participating in the project to receive university credit, at their own expense, for training sessions. This credit may be applied toward endorsement in the area of severely/profoundly handicapped. The parent training program utilizes group meetings and home visits designed to promote home carryover of the classroom Individualized Education Plan. All project activities are carried out in concert with existing public school and university policies and practices and are planned jointly by the University of Texas project staff and designated public school personnel. During the 1977-78 project year, 53 public school personnel have received training, and over 50 children and their parents have been served. All project activities have been evaluated utilizing formative and summative procedures: for children, developmental assessments were used; for the staff, training session evaluation scales and competency checklists were employed; and the evaluation tools for the parents were the Fels Parent Behavior Rating Scale, the Parent Needs Assessment Survey, the Acceptance of Self and Others Scale, and the Parental Attitude Survey Scale.

Duration: July 1977-June 1980.

Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-HI-1 **EFFECTS OF A RECREATION BASED MOTOR PROGRAM ON MOTOR AND COGNITIVE SKILLS OF RETARDED PRESCHOOL CHILDREN: THE PRESCHOOL RECREATION ENRICHMENT PROGRAM – PREP**

Investigator(s): Karen G. Littman, M.A., Project Director; and Lin Leslie, M.A., Project Coordinator, Project PREP, Suite 10A, South Office Building, Landover Mall, Landover, Maryland 20785. Phone: (301) 773-8224.

Purpose: To examine the effects of recreation based programs for preschool retarded children on fundamental motor-skill acquisition and on the associated areas of language, self-concept, and socialization.

Subjects: 27 preschool children, ages 3.3 to 5.9, classified as mentally retarded but without severe physical handicaps.

Methods: The subjects were enrolled during the summer of 1976 in a recreation program directed by the Special Services Division of the Maryland National Capital Park and Planning Commission, Riverdale, Maryland. Children (N = 15) were assigned randomly to an experimental PREP group, and 12 children were assigned to a control Hawthorne group. They were pre- and posttested prior to the implementation of the training program and at its conclusion. The test program consisted of the Bzoch-League Receptive-Expressive Emergent Language Scale (REEL), the Preschool Attainment Record (PAR), and the Denver Developmental Screening Test (DDST), selected for their ability to discern several specific motor, cognitive, and affective variables. Programs were provided to both groups for 3½ hours a day, 5 days a week, for 6 weeks. The experimental group received the PREP program, which provided sequential training in 10 fine and 18 gross motor skills, as well as stimulation of language, social interaction, and self-concept. The control group participated in a

program of arts and crafts, trips, swimming, singing, games, movement exercises, etc. Both programs were conducted in the same park and recreation facility in a neighborhood setting. The data were analyzed using ANOVA for a 2-factor experiment (groups and trials) with repeated measures on trials. Follow-up t-tests were then performed for specific comparisons using the Newman-Kuels ***post hoc*** procedure.

Findings: Receptive language on the REEL, ambulation on the PAR, and language on the DDST improved for both groups between pre- and posttesting. Expressive language on the REEL, manipulation on the PAR, and fine motor skills on the DDST improved significantly for the experimental PREP group only.

Duration: June 1975-completed.

Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

Publications: (1) Littman, K. and Leslie, L. ***PREP implementation and resource guide. Volume I.*** Washington, D.C.: Hawkins & Associates, Inc., 1978. (2) Littman, K. and Leslie, L. ***PREP manual. Volume II.*** Washington, D.C.: Hawkins & Associates, Inc., 1978.

42-HJ-1 THE EFFECTS OF THIORIDAZINE ON COGNITIVE, SOCIAL, AND CLINICAL FACTORS IN INTELLECTUALLY RETARDED CHILDREN

Investigator(s): N.N. Singh, Ph.D., Mangere Hospital and Training School, Robertson Road, Mangere, New Zealand; and M.G. Aman, Ph.D., Research Officer, Department of Psychiatry, Auckland Medical School, University of Auckland, Auckland 1, New Zealand.

Purpose: To develop specific information regarding the effects of thioridazine (Mellaril) in intellectually retarded children, giving careful attention to dosage effects and noting changes in standardized tests in six major areas of function.

Subjects: 20 to 25 moderately to severely retarded children who are receiving thioridazine.

Methods: This study will employ a double blind, placebo controlled, cross-over design in which each subject serves as his own control. Each subject will be tested during a baseline period and at the end of three subsequent periods. During these periods, the subjects will receive placebo, thioridazine in the dose already clinically determined for that child, and thioridazine in a relatively low, standardized (mg per kg) dose. The dependent variables come from six major areas and employ already well-standardized methods or instruments: (1) physical measures (heart rate, blood pressure, body weight), (2) eating behavior on an observational scale, (3) motor development, (4) oral language (including both receptive and expressive language), (5) attention span as measured by the Continuous Performance task, and (6) standardized rating scales of social behavior. Each of the drug periods will last 4 weeks and the various conditions will be balanced with respect to time.

Duration: January 1979-January 1980.

Cooperating group(s): Medical Research Council of New Zealand.

42-HK-1 THE EFFECT OF CHILD RETARDATION ON THE FAMILY

Investigator(s): H.I.J. van der Spuy, Ph.D., Associate Professor; John A. Byles, Ph.D., Professor; N.B. Epstein, M.D., Professor; and D. Bishop, M.D., Associate Professor, McMaster University Medical Centre, 1200 Main Street West, Hamilton, Ontario, Canada L8S 4J9; and P.G. Croskerry, Ph.D., Research Associate; and D. Abelsohn, M.A., Research Associate, Chedoke Child and Family Centre, P.O. Box 590, Hamilton, Ontario, Canada L8N 3L6. Phone: (416) 387-1330, Ext. 216.

Purpose: To investigate relationships between developmental and physical handicap in the child and family functioning; to provide empirical support for the McMaster Model of Family Functioning – Problem Solving Questionnaire (MMFF-PS); and to provide information relevant to the clinical management of mentally retarded children and their families.

Subjects: Approximately 300 families with a girl or boy, ages 2 to 12, from London, Ontario, Cedar Springs (Chatham), and Chedoke comprising two experimental and two control groups that contain respectively (1) a mentally retarded child without physical stigmata, (2) a mentally retarded child with physical stigmata, (3) a nonmentally retarded child with physical stigmata, and (4) a nonmentally retarded child without physical stigmata.
Methods: Three tests will be administered to the parents separately, so that differential as well as composite effects on the parents might be noted. The MMFF-PS will investigate family functioning; an auxiliary measure of family functioning will be obtained using an established instrument, the van der Veen Family Concept Test; and denial will be assessed by means of a short questionnaire combining true/false and open-ended items. Demographic data will also be collected.
Duration: June 1978-February 1979.
Cooperating group(s): Firestone Foundation, Akron, Ohio.

Gifted

42-IA-1 LONGITUDINAL, IN-DEPTH STUDY OF EXCEPTIONALLY GIFTED BOYS AND THEIR FAMILIES

Investigator(s): Robert S. Albert, Ph.D., Professor, Department of Psychology, Pitzer College, Claremont, California 91711. Phone: (714) 620-8000, Ext. 3069.
Purpose: To gain an in-depth understanding of structure, attitudes, values, and socialization experiences in the families of precocious children, ages 10 to 14; and to discover how these family variables may influence their cognitive and personality development and the attainment of eminent careers.
Subjects: 55 boys, ages 10 to 14, and their parents.
Methods: Each child and both parents will be measured by standard measures for the priority and strength of their personal values, the strength of selected personality attributes, and their creative potential. Two types of parental interviews will be conducted. A semistructured interview schedule, developed by K. Marjoribanks, will be conducted with both parents together. The instrument measures parents' motivational strength in six areas: achievement, activeness, intellectual interests, independence, degree of each parent's involvement in the child's development, and degree of parents' involvement in general family decisions. An open-ended interview schedule, developed by R.S. Albert, will be conducted with each parent individually. The open-ended interview will focus on three major areas of family experience: (1) aspects of each parent's childhood, their early relationships with, and characterizations of, their parents; (2) their perceptions of their spouse, of the precocious child, and of other children in the family; and (3) areas and degrees of compatibility and incompatibility between the parents. The interviews and other measures are designed specifically to tap distinct areas of parents' recollections and behavior. All measures selected have been considered carefully for their validity. Continued use of these measures allows for comparisons among previously and newly selected samples of precocious youth.
Duration: 1977-1990.
Cooperating group(s): Robert Sterling Clark Foundation, Inc.
Publications: (1) Albert, R.S. Genius. In R. Woody (Ed.), ***The encyclopedia of clinical assessment.*** San Francisco: Jossey-Bass (in press). (2) Albert, R.S. Observations and suggestions regarding giftedness, familial influence and the attainment of eminence. ***Gifted Child Quarterly,*** 1978, 22, 201-211. (3) Albert, R.S. Toward a behavioral definition of genius. ***American Psychologist,*** 1975, 30, 140-151. (4) Albert, R.S. Cognitive development and parental loss among the gifted, the exceptionally gifted and the creative. ***Psychological Reports,*** 1971, 29, 19-26. (5) Albert, R.S. Genius: Present-day status of the concept and its implication for the study of creativity and giftedness. ***American Psychologist,*** 1969, 24, 743-753.

42-IA-2 GIFTEDNESS AND LEARNING STYLES

Investigator(s): Bruce M. Shore, Ph.D., Associate Professor; Ronald H. Tali, Ph.D., Associate Professor; and F. Gillian Rejskind, M.A., Assistant Professor, Department of Education, McGill University, 3700 McTavish Street, Montreal, Quebec, Canada H3A 1Y2. Phone: (514) 392-8803; and Barbara Weiss, M.Ed., Lecturer, Department of Education, Concordia University, 1455 de Maisonneuve West, Montreal, Quebec, Canada H3G 1MH.
Purpose: To study the relationships between giftedness (variously defined), learning styles of children, and teaching styles of teachers and parents.
Subjects: Gifted children, of both sexes, ranging in age from preschool to university, will be the focus of several studies now in their initial stages of formulation.
Methods: The studies are correlational, observational, and, in some cases, longitudinal. Some of the observations will be in highly structured circumstances. A few of the specific variables under investigation are maternal teaching style, the impact of varying definitions of giftedness on learning preferences, characteristics of the fast-accurate group among the four related to ***reflection*** and ***impulsivity,*** and the utility of the concept of time-on-task in relation to speed of learning.
Duration: 1978-1983.
Cooperating group(s): (1) McGill University Graduate Faculty. (2) Quebec Department of Education.

Emotionally Disturbed and Mentally Ill

42-JA-1 DIAGNOSIS IN CHILD PSYCHIATRY

Investigator(s): John S. Werry, M.D., Professor and Head, Department of Psychiatry, Auckland Medical School, University of Auckland, Auckland 1, New Zealand.
Purpose: To study the interdiagnostician reliability using the new DSM III (American Psychiatric Association) diagnostic classification system; to allow for an estimate of the incidence of the diagnostic categories in a child psychiatric unit; and to investigate the validity of the diagnostic categories by reference to established rating and observational instruments and by reference to differential outcome.
Subjects: All incoming patients, ages 3 to 16, in the child psychiatric clinic of Auckland Hospital.
Methods: All incoming patients are diagnosed independently by up to four clinicians (a minimum of two diagnose each child). Additionally, each child is rated by his parents on the Behavior Problem Checklist (cf. Quay, H. ***Journal of Abnormal Child Psychology,*** 1977, 5, 277-288) to provide one source for the study of validity. Finally, neurological, anamnestic, and demographic information will be collected for each child ultimately to be related to diagnostic category and outcome.
Duration: July 1978-December 1981.
Cooperating group(s): Medical Research Council of New Zealand.

42-JA-2 EVALUATION OF A CHILD AND ADOLESCENT PSYCHIATRIC UNIT

Investigator(s): John S. Werry, M.D., Professor and Head, Department of Psychiatry, Auckland Medical School, University of Auckland, Auckland 1, New Zealand.
Purpose: To establish a cost/benefit accounting system that is reliable, valid, informative, and can be operated by the staff of a child psychiatric clinic in the course of and without disruption of their normal duties.

Subjects: All incoming patients at a community based child and adolescent center.
Methods: An evaluation system, operated by the staff, has been established recently at a child and adolescent center community clinic. The information collected includes (1) patient description (age, sex, socioeconomic status, etc.); (2) referral data (referring doctor, social agency, etc.); (3) clinical data (diagnosis, personality profile derived from rating scale, teacher ratings, etc.); (4) administrative data (time spent, professional affiliation of clinician, etc.). Measures of improvement will be used as derived from each clinician, parent, and teacher. These measures of change will be related ultimately to the types of treatment and experiences of the children. Furthermore, the evaluation will seek independent validation by reference to persons outside the clinic setting. The external raters will include: the initial complainant (usually the parent), the initial referrer (family doctor or social welfare agency), and teachers. Additionally, an effort will be made to assess changes as perceived by the child by employing suitable self-rating measures.
Duration: January 1979-January 1981.
Cooperating group(s): Mental Health Foundation of New Zealand.

42-JC-1 CNS EFFECTS OF LOWER LEAD LEVELS

Investigator(s): Oliver David, M.D., D.M.Sc., Assistant Professor, Director, Child Behavior Research Unit, Downstate Medical Center, State University of New York, Box 1195, 451 Clarkson Avenue, Brooklyn, New York 11203. Phone: (212) 270-1791.
Purpose: To determine the extent of pathology that may be attributable to lead in a CNS dysfunctional pediatric population.
Subjects: Boys and girls, ages 4½ to 12, who are diagnosed as mild and borderline retarded or hyperkinetic.
Methods: Children identified as either hyperactive and/or mild or borderline retarded and who also have blood lead levels between (25-55 μg/100ml) are assigned at random to one of three treatment regimens. Behavioral, cognitive, and perceptual motor measurements are made before and after treatment (lead chelation, placebo, methylphenidate), and comparisons will be drawn within and between treatment groups.
Findings: There appears to be an amelioration in hyperactive behavior in a large number of the children who are treated with lead chelation.
Duration: 1973-1981.
Cooperating group(s): (1) Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare. (2) Health Research Council of New York State.
Publications: (1) David, O. ***et al.*** Threshold levels and lead toxicity. ***Archives of Environmental Health,*** 1978-79. (2) David, O. ***et al.*** Low lead levels of mental retardation. ***Lancet,*** December 1976. (3) David, O. ***et al.*** Treatment of hyperactive children with chelation. ***American Journal of Psychiatry,*** October 1976. (4) David, O. ***et al.*** Lead and hyperactivity. ***Lancet,*** October 1972.

42-JC-2 EVALUATION OF A DAY TREATMENT PROGRAM IN A COMMUNITY MENTAL HEALTH CENTER

Investigator(s): Leah Abrahams, M.A., Program Evaluation and Research, Brown County Mental Health Center, 1320 Mahon Avenue, Green Bay, Wisconsin 54301. Phone: (414) 468-1136.
Purpose: To evaluate a day treatment program in a community mental health center.
Subjects: 15 girls and boys, ages 10 to 17, who, though not actively psychotic, are acting out in their family and have been unsuccessful in mainstream or special education classrooms.
Methods: The subjects have normal IQs or better, good physical health, and no long-term patterns of delinquent behavior. Their parents agree to become involved actively. The methodology is basically a before-after design with each client serving as his/her own control. Baseline data on

school behavior, social skills, family interaction, and self-concept will be compared periodically with new evaluations using the Walker Problem Identification Checklist, the Piers-Harris Children's Self-Concept Scale, and the staff's daily rating scales.

Duration: September 1978-June 1979.

Publications: A report will be available from the investigator.

42-JC-3 COGNITIVE TRAINING AND STIMULANT MEDICATION IN HYPERACTIVE CHILDREN

Investigator(s): Rachel Gittelman, Ph.D., Director; and Howard Abikoff, Ph.D., Psychologist, Child Development Clinic, Long Island Jewish-Hillside Medical Center, New Hyde Park, New York 11040. Phone: (212) 470-4547.

Purpose: To determine if the adjunctive use of cognitive training with hyperactive children requiring stimulant treatment can (1) improve academic functioning, (2) improve social skills, (3) improve the behavior of children only partially responsive to medication, and (4) help maintain treatment gains following stimulant termination.

Subjects: 70 girls and boys, ages 6 to 12, receiving stimulant treatment for hyperactivity.

Methods: Children receiving stimulant medication are placed on a 2-week trial of placebo to determine if their clinical response indicates the need for resumption of active medication. If they should resume medication, then baseline-placebo measures are collected. These include parent and teacher behavior ratings (Conners Teacher Rating Scale, Werry Weiss Peters Activity Scale, Behavior Rating Scale); achievement tests (Stanford Achievement Test, Gray Oral Reading Test, Wide Range Achievement Test); academic grades, and psychological tests (Wechsler Intelligence Scale for Children-Revised, Matching Familiar Figures Test, Raven Progressive Matrices, Continuous Performance Test, Paired Associates Test). The children are returned to active medication. Optimal dosage is determined for each child to enable assessment of drug responsiveness. Then the children are assigned randomly to either cognitive training plus medication, attention control plus medication, or a medication alone group. All baseline-medication behavioral measures then are obtained from teachers and parents. The groups are stratified as to age and degree of academic and behavioral difficulties on medication. The children in the two training groups are exposed to a 16-week program. The first 8 weeks consist of two weekly 1-hour individual training sessions at school. Over 25 exercises are employed including jigsaw puzzles, mazes, word search, checking for errors in dot-to-dot problems, grab bag exercises, *hot and cold* games, picture sequencing, 20 questions, etc. Self-instructional and cognitive modeling procedures are employed, as are attempts to involve the child in recognition and consideration of task demands and strategies. Parent training sessions are also included. Teacher and parent ratings are obtained at the conclusion of the 8-week period. During the final 8 weeks, the children work in small groups (N = 3, grade matched as closely as possible) at the clinic during 2 weekly 1-hour sessions. The emphasis during these sessions is on social problem solving training, with many of the exercises adapted from Elardo and Cooper *Project Aware Manual.* Cooperative task exercises are also employed using such materials as jigsaw puzzles and Etch-a-Sketch designs. Posttreatment assessment after 16 weeks on all dependent measures is carried out. Following the 16-week assessment, all children in the medication only and attention control groups are placed on placebo, as are half the children in the cognitive group. The remaining children in the cognitive group are maintained on medication. All dependent measures are collected after 1 to 4 weeks on placebo. Individual and group booster sessions, 3 months after termination of training, will be followed by the collection of all dependent measures at a 1-year follow-up.

Duration: December 1977-December 1980.

Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-JG-1 AN INFANT MENTAL HEALTH PROGRAM

Investigator(s): Selma H. Fraiberg, M.S.W., Director and Professor of Child Psychoanalysis, Department of Psychiatry, Medical School, University of Michigan, Ann Arbor, Michigan 48104. Phone: (313) 764-9328; and Lily Ladin, Administrative Assistant, Child Development Project, 201 East Catherine Street, Ann Arbor, Michigan 48104.

Purpose: To develop psychiatric treatment methods for infants with moderate to severe developmental problems; to develop measures to assess change in infants and parents before and after treatment; and to apply these measures in a study of treatment outcome for a group of families representing all socioeconomic levels.

Subjects: Infants, ages birth to 3, with moderate to severe developmental problems.

Methods: The parent is used as the change agent in a home based program combining psychoanalytically oriented treatment for the parent-child pair with developmental guidance and support. Affective and social development are emphasized. Naturalistic observations from home visits recorded in narrative form, playroom visits, and developmental testing (Bayley) supply study data. Criteria for judgments of risk and change are being developed.

Findings: Intervention, which focuses on parent-child attachment and interaction, supports parental adequacy and provides developmental information that can prevent or reduce risks to early ego development in a range of cases previously thought unreachable. The source of the risk or damage to the child (the infants' condition, parental psychological problems, overwhelming life circumstances) did not alter the outcome significantly.

Duration: June 1974-May 1980.

Cooperating group(s): William T. Grant Foundation, New York.

Publications: (1) Shapiro, V.; Fraiberg, S.; and Adelson, E. Infant-parent psychotherapy on behalf of a child in a critical nutritional state. ***Psychoanalytic Study of the Child,*** 1976, 31. (2) Fraiberg, S.; Adelson, E.; and Shapiro, V. Ghosts in the nursery. ***Journal of Child Psychiatry,*** 1975, 14(3).

42-JI-1 A COMPUTER BASED STUDY OF CHILDREN IN A RESIDENTIAL TREATMENT CENTER

Investigator(s): Otto Weininger, Ph.D., Associate Professor, Department of Applied Psychology, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6. Phone: (416) 923-6641, Ext. 564.

Purpose: To understand the psychological and demographic characteristics of children who are in residential treatment; and to study the effects on children who have been in a residential treatment center after they have been discharged.

Subjects: Approximately 250 girls and boys, ages 5 to 18, suffering from a variety of emotional and academic disturbances.

Methods: Specific forms and informational charts were developed and completed for all children in the residential treatment center. These forms and charts were composed of (1) admission, discharge, and transfer slips for all forms of service and out service; (2) intake information on children in residence (e.g., child history questionnaire, psychological and psychiatric profiles, medical updates, etc.); (3) discharge forms (e.g., assessment of adjustment at the point of the child's discharge completed by the house head); (4) an assessment of the adjustment at the point of discharge completed by the child; and (5) an assessment of a psychological nature.

Duration: 1977-continuing.

Cooperating group(s): Browndale, Ontario, Canada.

Publications: Information is available from the investigator.

42-JI-2 **THE MADISON AVENUE SCHOOL: OFFERING HOPE FOR TROUBLED CHILDREN**

Investigator(s): Otto Weininger, Ph.D., Associate Professor, Department of Applied Psychology, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6. Phone: (416) 923-6641, Ext. 564.
Purpose: To provide alternative schooling for children who are seriously emotionally disturbed and have been rejected by the public school system.
Subjects: 17 girls and boys, ages 5 to 19, who are seriously emotionally disturbed and come from lower socioeconomic backgrounds.
Methods: A learning environment is provided for the learning disabled child in which his/her academic needs are met by using play materials and activities in the classroom, and social and emotional needs are met through the quality of teacher-child relationship. The emotional life of the child determines the selection and use of materials. This program places special emphasis on various aspects of the teacher-child relationship and play as the most important media through which learning disabled children can learn. The emotional and intellectual development of the children are assessed regularly by a resource group of psychologists who consult actively with the teachers and evaluate the total functioning of the child by looking at the quality of play, interpersonal relationships, language development, and visual-motor development. The usual standardized criteria for evaluating academic progress, therefore, are not applicable. The children require unique methods of teaching and evaluation, which the Madison Avenue School is attempting to develop in order to assess progress in a useful and meaningful way.
Duration: 1974-continuing.
Cooperating group(s): (1) Ontario Ministry of Social and Community Services. (2) Ontario Ministry of Education.
Publications: Weininger, O. and Muskat, J. Madison Avenue School: Offering hope for troubled children. *Orbit,* April 1978, 9(2), 15-17.

Juvenile Delinquency

42-KC-1 **JUVENILE DELINQUENCY AND JUSTICE IN INDIA**

Investigator(s): Clayton A. Hartjen, Ph.D., Associate Professor; and S. Priyadarsini, Ph.D., Associate Professor, Department of Sociology, Rutgers University, Newark, New Jersey 07102. Phone: (201) 648-5827.
Purpose: To explore the behavior of juveniles in India, the attitudes of the public toward delinquency, and the judicial and correctional processing of offenders.
Subjects: 823 rural-urban, high school and institutionalized youths, ages 13 to 18 (most of the high school youths and all of the institutionalized youths were males); and 803 adults (male and female) from rural and urban areas were interviewed for their attitudes toward and knowledge of juvenile delinquency.
Methods: A self-report questionnaire was administered to groups of youths in six high schools, two state-run juvenile institutions, and two privately-run juvenile institutions. The youths were queried about their involvement in delinquent behavior (5-fold ordinal response categories). The public attitude survey used 25 projective stories of certain youthful behavior and asked the random sample of respondents (1) if they thought the act should be prohibited, (2) if it is prohibited – to whom they would report a person/youth engaging in such behavior, and (3) what they would recommend be done to the youths engaging in such behavior. The respondents had to choose among various categories of responses provided. Interviews were conducted with judicial and other officials who deal with youthful offenders to determine their orientations and attitudes toward the youngsters and the functioning of the agencies that deal with youths.

Duration: February 1978-June 1979.
Cooperating group(s): (1) National Science Foundation. (2) Indo-American Fellowship.

42-KD-1 JUVENILE RISK ASSESSMENT SCALE

Investigator(s): Richard C. Heinz, M.A., Planning Analyst, Bureau of Community Corrections, Division of Corrections, State of Wisconsin, Madison, Wisconsin 53711. Phone: (608) 266-2092.
Purpose: To aid in the assignment of a level of supervision, a method of assessing the client's propensity for further criminal behavior was developed to help the probation/parole juvenile specialist develop the appropriate case and supervision plan.
Subjects: A sample of 200 randomly selected closed or revoked juvenile cases from the Division of Corrections, State of Wisconsin, during the period 1960 to 1970.
Methods: Twenty predictor variables were entered into a multilinear regression analysis, using the occurrence of an adult felony offense as the outcome variable. Items were entered in a stepwise fashion. The predictors, which when cumulated provided the best prediction, were selected and assigned a corresponding weight. The final scale was composed of six items that yield a composite risk score. Cut-off points then determined the level of supervision.
Findings: The best predictors were number of prior living arrangements or placements, age at first juvenile adjudication, number of prior adjudications, attitude, emotional stability, and response to court or bureau imposed conditions. These six factors explained 60% of the variance in predicting the adult felon outcome. The scale has not been used long enough to permit any further reliability testing.
Duration: November 1976-January 1980.
Cooperating group(s): Wisconsin Council of Criminal Justice, Case Classification/Staff Deployment Project.
Publications: Information is available from: Case Classification/Staff Deployment Project, Bureau of Community Corrections, Division of Corrections, Madison, Wisconsin 53711.

42-KE-1 GIFTEDNESS AND JUVENILE DELINQUENCY IN A SUBURBAN COURT

Investigator(s): Kenneth R. Seeley, Ed.D., Assistant Professor, School of Education; and Anne R. Mahoney, Ph.D., Assistant Professor, Department of Sociology, University of Denver, Denver, Colorado 80208. Phone: (303) 753-3260.
Purpose: To determine the incidence and nature of giftedness among juvenile offenders in a suburban court system.
Subjects: Approximately 1,100 juvenile offenders, ages 10 to 17, will be interviewed and screened; and an estimated 100 juvenile offenders will be given in-depth assessment.
Methods: This is a normative study to establish incidence levels and types of giftedness, family influences, kinds of offenses, and to determine how different offenders are treated differently by the juvenile justice system. A screening instrument is being developed to identify for referral potentially gifted youths for an assessment (including creativity, intellectual achievement, and nonverbal intelligence).
Findings: There is a dearth of information on the subject. The actual data gathering will begin in Fall 1979. The literature review in gifted underachievers closely parallels the juvenile delinquency profile.
Duration: July 1978-July 1980.
Cooperating group(s): (1) Arapahoe County Court System. (2) Law Enforcement Assistance Administration.

42-KH-1 A NATIONAL SURVEY OF YOUTHS IN DRUG TREATMENT PROGRAMS

Investigator(s): Alfred S. Friedman, Ph.D., Director of Research, Philadelphia Psychiatric Center, Ford Road and Monument Avenue, Philadelphia, Pennsylvania 19131. Phone: (215) 877-2000.
Purpose: To collect systematically information that assesses the special needs of youths in drug treatment; and to compare and contrast these results with other national data bases.
Subjects: 2,750 youthful drug abusers (61% female; 70% white; mean age, 16.4 years) representing 97 drug abuse treatment programs.
Methods: Data on the subjects were collected in 1976-1977. A 6-page interview questionnaire was administered individually to the subjects by a trained agency counselor. Questions concerned background problems, criminal and drug involvement and reasons for entering treatment, as well as past treatment experiences.
Findings: Widespread phencyclidine use was found. More than 31% reported current or past use.
Duration: 1976-1978.
Cooperating group(s): National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Beschner, G.M. and Friedman, A.S. (Eds.) ***Handbook of youthful drug abuse issues.*** New York: Lexington Books, February 1979. (2) Friedman, A.S. ***et al. Phencyclidine use among youth in drug abuse treatment.*** NIDA Services Research Report, 1978.

42-KK-1 NATIONAL EVALUATION TO PREVENT DELINQUENCY THROUGH YOUTH SERVING AGENCIES

Investigator(s): Barry Krisberg, Project Director; and Jim Austin, Primary Site Evaluator, Research Center, National Council on Crime and Delinquency, 760 Market Street, San Francisco, California 94102; and Renae Ogletree, Assistant Project Director, Boys' Clubs of America, 771 First Avenue, New York, New York 10017. Phone: (212) 557-7755.
Purpose: To increase the knowledge about what types of prevention processes bring what effects, under what conditions, with what type of clients; and to measure the quality and the effects of a national organization and the services it provides to its affiliates.
Subjects: Youths from target communities with populations less than 350,000; youths not served previously by Boys' Clubs or any youth servicing agency; youths who have participated infrequently in Boys' Clubs programs; and youths, ages 6 to 18.
Methods: In delinquency prevention program evaluation, project sites will be separated into intensive and nonintensive levels of evaluation, both of which will be subject to a process study. At intensive project sites, there will be a rigorous effort to measure program impact. Process study requires careful observation and documentation of program operation. A detailed analysis will be conducted to explain how projects were planned, implemented, and administered over the grant period. The impact evaluation attempts to measure the effects of prevention strategies on youth, communities, projects, and other youth serving agencies. An innovative feature of this evaluation strategy is the analytic integration of process evaluation and impact evaluation. By relating the process to the impact elements, the design generates data that more fully explain program results. A local data collector (LDC) has been hired at the Richmond Boys' Club to gather data to be analyzed. The Primary Site Evaluator will monitor the LDC's activities and will have responsibility for coordinating and supervising data collection activities.
Duration: November 1977-November 1979.
Cooperating group(s): Law Enforcement Assistance Administration, Institute for Juvenile Justice.
Publications: Information is available from Mr. Krisberg.

Corrections

42-KS-1 **EVALUATION OF AN ATTENDANCE CENTER PROGRAM**

Investigator(s): John A. Byles, D.S.W., Professor, Department of Psychiatry, McMaster University, 1200 Main Street West, Hamilton, Ontario, Canada L8S 4J9. Phone: (416) 525-9140, Ext. 2583.
Purpose: To compare the effectiveness of an Attendance Center Program (ACP) and a regular probation (RP) service to reduce further conflict with the law.
Subjects: 25 boys admitted to the ACP and 50 boys in RP (mean age, 14½), who have lengthy delinquency histories and are deemed unlikely to benefit from continued probation.
Methods: The ACP provides social-recreational group activities and individual tutoring every weekday, 6:30 PM to 9:30 PM. Attendance is mandatory. Upon satisfactory completion (about 15 weeks), the court is requested to terminate the boy's probation order. Each boy admitted to ACP was matched (for age and delinquency history) with two boys in RP. Limited accommodation in ACP and the large pool of probationers made matching possible. All subjects were living at home with parents or guardians and were not involved in any other treatment program. Subjects will be monitored for 12 months following entry to the study. Outcome measures include several measures of recidivism plus assessment of school/work performance and lifestyle.
Duration: September 1976-March 1979.
Cooperating group(s): Ministry of Community and Social Services, Ontario.

THE CHILD IN THE FAMILY

Family Relations

42-LA-1 CHILD MENTAL HEALTH IN ALTERNATIVE FAMILY STYLES

Investigator(s): Bernice T. Eiduson, Ph.D., Professor in Residence, Department of Psychiatry; Thomas S. Weisner, Ph.D., Assistant Professor, Department of Anthropology; Jannette Alexander, D.C.S.W., Field Director, Max R. Micky, Ph.D., Biostatistician; and Lee Zimmerman, Ph.D., Psychologist, Neuropsychiatric Institute, University of California, 315 Security Pacific Bank Building, Los Angeles, California 90024. Phone: (213) 825-6216.
Purpose: To continue a longitudinal study of the socialization practices of a population of children who have been followed since the trimester; to continue periodic psychological testing and observations in home environments; to examine the adjustive skills and competencies as they interface with the community setting and mainstream institutions (like schools); and to evaluate the implications of new emerging lifestyles and parenting practices for institutional and service related health care services.
Subjects: 200 Caucasian children, who live in a variety of family settings.
Methods: The family settings explored consist of single mother households, living groups, and social (not legal) contract families. Only one of the family settings represents the nuclear two-parent family. The testing and observations of the children at home have been conducted to evaluate the implications of the varying lifestyles on the child's physical, socioemotional, and cognitive development. Methods and procedures to be followed utilize a multitrait, multimethod approach to validate and provide multiple perspectives on family and child development data to be collected. Methods include parent questionnaires and interviews; observations of the family and child in the home setting during the dinner hour; medical examinations of the child done in the project offices; and standardized and semi-standardized psychological tests administered to both child and parent at annual intervals in the project offices. Data collection periods are selected to optimize exploration of child development outcomes in the population. Each type of data is related to internal and external validation procedures through relationships to the other methods of data collection utilized in the project.
Duration: 1974-1981.
Cooperating group(s): (1) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Carnegie Corporation.
Publications: A list of publications is available from the investigators.

42-LC-1 DAUGHTERS IN BLACK SINGLE PARENT FAMILIES

Investigator(s): Charles B. Wilkinson, M.D., Executive Director; William A. O'Connor, Ph.D., Senior Research Associate; and Stacey Daniels, Research Associate, Greater Kansas City Mental Health Foundation, 600 East 22nd Street, Kansas City, Missouri 64108. Phone: (816) 758-7212.
Purpose: To determine the relationship between childrearing patterns and community resource availability in black, single parent, female-headed families.
Subjects: 160 black girls, ages 16 to 20, and their single parent mothers.
Methods: Names of potential subject daughters were obtained from public schools. Those residing in mother-headed households were contacted for participation. Single parent mothers, who agreed to participate, were interviewed twice for information on demographic, socialization patterns, lifestyles, and community resources, retrospectively over four stages of their daughters' lives: birth to kindergarten, grades K-6, junior high school, and senior high school. Daughters in single parent

families were interviewed, over 18 months at 6-month intervals, for information on adolescent participation, demographic data, future aspirations, and lifestyle patterns. Data will be collected on the above in 10 ecological areas and will be factor and cluster analyzed according to work, education, public recreation, social, public, health, commercial, family, private, and transit. Correlation and analysis of variance will be performed to yield relationships.

Findings: Preliminary findings will be available when all daughters have completed Phase I interviews.

Duration: May 1977-December 1979.

Cooperating group(s): (1) Center for Minority Group Mental Health Programs; National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Kansas City, Missouri School District.

42-LC-2 CHILDREN OF PARENTS WHO SEPARATE

Investigator(s): Marie M. Clay, Ph.D., Professor; and Viviane M.J. Robinson, Ph.D., Lecturer, Department of Education, University of Auckland, Private Bag, Auckland, New Zealand. Phone: 792-300.

Purpose: To conduct a survey of the broad category of children who were not living with natural parents; and to study more intensively the reactions at the time of separation of children whose parents had separated or divorced.

Subjects: Approximately 30,000 children from the Auckland primary schools included in a census-type survey; 480 children from one- and two-parent families; 69 custody parents; and 69 children, ages 4 to 12.

Methods: Four approaches were employed to study children of parents who separate (particularly their reactions at the time of separation): (1) a research review; (2) a census-type survey of 30,000 children in the Auckland primary schools; (3) interviews with 69 custody parents of 161 children; and (4) Bene-Anthony Family Relationships Test administered to 69 children, ages 4 to 12, of the inverviewed parents and a matched group of children living with two parents.

Findings: Attainment and adjustment ratings of children living with two parents or one parent are significantly different. One-third of the custody parents report that children have a positive reaction to separation, one-third a negative reaction, and one-third are unchanged. After separation a pattern of noninvolvement with the absent parent is typical. Separation involves many changes in a family's life in addition to the departure of one parent.

Duration: 1970-1978.

Cooperating group(s): (1) Nuffield Foundation. (2) Mental Health Foundation of New Zealand. (3) New Zealand Department of Social Welfare.

Publications: Clay, M.M. and Robinson, V.M.J. ***Children of parents who separate.*** Wellington: New Zealand Council for Educational Research, 1978. 140 pp.

42-LC-3 AGE OF ONSET OF FATHER'S ABSENCE AND LENGTH OF SEPARATION AS THEY RELATE TO CHILDREN'S PERFORMANCE ON COGNITIVE TASKS

Investigator(s): James E. Savage, Jr., Ph.D., Assistant Professor; and Quentin Newhouse, Jr., Ph.D. Candidate, Research Assistant, Department of Psychology, 222 Douglass Hall, Howard University, Washington, D.C. 20059. Phone: (202) 636-6841.

Purpose: To document the adjustive mechanisms of father absence on the psychological well-being and social development of black children.

Subjects: 64 black girls and 57 black boys, ages 5 to 17, from the metropolitan Washington area, whose fathers are absent.

Methods: This study assesses the effects of the age of the child when the father left and the length of separation on children's performance on reading and mathematics tests. Father absence is

assumed as predisposing the child to miss certain cognitive experiences, which may have more negative effects with time. The child's orientations to success and failure in achievement settings was viewed as mediating the hypothesized effects of father absence. This notion was tested in a sample of children selected randomly from the metropolitan Washington area. The arithmetic and reading subtests of the Wide Range Achievement Test and Crandall Intellectual Achievement Responsibility Questionnaire (IAR) were the dependent measures. The survey study was conducted to assess the naturalistic effects of father absence on children's cognitive performances. The age at onset and duration of separation were each hypothesized as being related significantly to achievement performance. It was also hypothesized that the combination of these factors would be additive in explaining a significant proportion of the child's achievement performance. Series of linear and hierarchical multiple regression analyses were conducted to assess the impact of the mediator variables (age at onset and duration) on the criterion measures.

Findings: Age at onset was related significantly to the achievement performance of children whose fathers were absent, and was also a significant predictor of achievement performance. Likewise, the duration of separation was related significantly to and a predictor of the children's achievement performance. The IAR was significant as a mediator of father absence effects adding 15% to the variance accounted for in achievement performance.

Duration: August 1973-June 1978.

Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-LC-4 CHILDREN'S EXPERIENCE OF MARITAL DISRUPTION

Investigator(s): Larry Bumpass, Ph.D., Center for Demography and Ecology, 3224 Social Science Building, University of Wisconsin, 1180 Observatory Drive, Madison, Wisconsin 53706. Phone: (608) 262-2182; and Ronald Rindfuss, Ph.D., Carolina Population Center, University of North Carolina, Chapel Hill, North Carolina 27514.

Purpose: To determine, using life table procedures and data from the 1973 Family Growth Survey, the cumulative probability and average duration that an American child will have experienced a single-parent family as a consequence of marital disruption.

Subjects: A national probability sample of 9,797 women under age 45 who had ever been married or who at the time were never-married mothers.

Methods: This analysis is based on data from the 1973 Family Growth Survey. In order to measure children's experience of marital events, a children's file has been created, in which each birth reported by the sample of women becomes a record on which all of the mother's data are retained, as well as information for that particular child. The number of times a woman is represented in this file is determined by the number of children she has had; i.e., women with 10 children will be represented 10 times. The experience of premarital birth has not been included in these estimates; however, the experience of intermarital birth (after separation but before remarriage) has been included, as has paternal mortality.

Findings: Estimates based on the early 1970 period suggest that about a third of all children will spend some time in a single-parent family before age 16 as a consequence of marital disruption (children born between marriages are included in these estimates, but those born before their mother's first marriage are not). There are very large differences by race, education, and the age of the mother at the child's birth. These differences appear in the timing as well as the prevalence of marital disruption. Of those affected by disruption, a quarter turn 18 or have their mother remarry within 2 years of disruption; within 5 years about half are still in a single-parent family. Subgroup differences in remarriage rates moderate differences in experience of this status by education and age of mother but exacerbate the differences by race.

Duration: 1973-completed.

Cooperating group(s): (1) University of Wisconsin, Madison, Institute for Research on Poverty. (2) National Institute of Child Health and Human Development; National Institutes of Health

Public Health Service; U.S. Department of Health, Education, and Welfare. (3) University of North Carolina, University Research Council.
Publications: (1) Bumpass, L. and Rindfuss, R. Children's experience of marital disruption. ***American Journal of Sociology,*** July 1979. (2) A paper presented at the Annual Meetings of the Population Association of America, Atlanta, Georgia, April 1978: Bumpass, L. and Rindfuss, R. Children's experience of marital disruption.

42-LF-1 **DETERMINATION OF GROWTH AND DEVELOPMENT OF OFFSPRING OF NARCOTIC ABUSING MOTHERS**

Investigator(s): Willis A. Wingert, M.D., Director, Pediatric Ambulatory Service, Los Angeles County, University of Southern California Medical Center, Pediatric Pavilion, CD 1D 36A, 1129 North State Street, Los Angeles, California 90033. Phone: (213) 226-3600.
Purpose: To determine the medical and psychosocial effects of maternal narcotic addiction on infants born to mothers addicted to heroin or methadone; and to differentiate between the effect on the infant of environment and of passive drug addiction during the first 24 months of life.
Subjects: Control group: Infants of addicted mothers who are placed in foster care immediately after birth. Experimental group: Infants who remain with natural mothers. The mothers will be referred to detoxification programs as needed.
Methods: Infants will be examined periodically by either a nurse practitioner or a pediatrician. The Denver Developmental Screening Test will be administered at each visit. At age 1 and age 2, a modified version of the Ainsworth Infant Attachment Scale will be performed by a psychologist on all infants in the experimental group. The Bayley Scales of Infant Development will be administered to the control children remaining in foster homes. Scores will be compared by computer analysis of variables and chi-square for differences between retained and placed infants. Other variables compared will be state of nutrition, incidence of illness, accidents, abuse, immunization status, and compliance in keeping appointments.
Duration: 1978-1980.
Cooperating group(s): State of California.

42-LF-2 **A PILOT STUDY OF EVOKED RESPONSES IN THE FETAL ALCOHOL SYNDROME**

Investigator(s): Donald C. Martin, Ph.D., Associate Professor, Biostatistics and Psychiatry (RP-10); Ann P. Streissguth, Ph.D., Associate Professor; and Veronica Buffington, M.S., Predoctoral Researcher, Psychiatry and Behavioral Sciences (RP-10), University of Washington, Seattle, Washington 98195. Phone: (206) 543-3996.
Purpose: To investigate the relationship between evoked responses, measures of neuropsychological function, and severity of diagnosis in a group of children born to alcoholic mothers.
Subjects: 10 to 15 children born to alcoholic mothers, the majority of whom have a diagnosis of fetal alcohol syndrome; and 10 to 15 matched controls born to nonheavy drinking and nonheavy smoking mothers.
Methods: Psychological/Physical Assessment: All subjects have been seen previously and the following information is available: (1) descriptive data on maternal drinking during pregnancy, (2) socioeconomic and family history data, (3) dysmorphology and pediatric examinations, (4) age appropriate IQ and school achievement tests, (5) growth data, and (6) behavior ratings. The Reitan battery will be administered when these data are not available. Evoked Response Procedure: The ER procedure proposed for this study will follow Cohen (1976) in basic design. A flash will be presented followed by a tone after a delay of about 1½ seconds. The subject will be instructed to press a switch to turn the tone off. This is very similar to a reaction time experiment. The flash will be directed away from the subjects and at a reflecting screen. The subject will be seated in a semidark room with eyes open. The electrodes will be at CZ, P3, P4, and OZ. The P3 and P4

placements will be used for bilateral symmetry measurements. Two electrodes will be used to monitor for eye blink and eye movement. The eye channel is used for editing to delete responses that are contaminated by muscle artifact. A resting EEG (both eyes open and eyes closed) will be taken before the ER run. All data will be recorded on an FM instrumentation tape recorder. This includes both the stimulus presentation times and the subject response. These tapes will then be digitized for analysis on a PDP 11/20 computer. The first program digitizes all sweeps and stores them on a disc. The times and some basic editing statistics (eye channel power and high frequency noise) are plotted along with numeric values and times. These are examined and then bad sweeps are deleted from the disc file. Averages and standard deviations are then computed, plotted, and saved in a summary file. Measures of slow potential changes will include slope and integrated amplitude. The summary files are then processed locally or transmitted by phone to a large computer for further analysis. The resting EEGs will be digitized and plotted. An algorithm proposed by Welch will be used to compute the power spectra. The computation is based on the Tukey interm data window and an FFT for segments of detrended data. The power spectra estimates are then averaged over segments, usually with a log transform. These are summed to generate a relative power for frequency bands.

Duration: April 1978-March 1979.

Cooperating group(s): University of Washington, Alcohol and Drug Abuse Institute.

Publications: Cohen, J. Learning disabilities and conditional brain activity. In R. Karrer (Ed.), ***Developmental psychophysiology in mental retardation.*** 1976. Pp. 335-361.

42-LF-3 A PROSPECTIVE STUDY OF CHILDREN OF SCHIZOPHRENIC PARENTS

Investigator(s): L. Erlenmeyer-Kimling, Ph.D., Principal Research Scientist and Director, Division of Developmental Behavioral Studies; and J.D. Rainer, M.D., Chief, Department of Medical Genetics, New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032. Phone: (212) 568-4000.

Purpose: To analyze biological-environmental interactions; to develop screening methods for early identification of vulnerable children; and to develop preventive intervention programs based on a more firm understanding of the etiological factors and the premorbid state related to schizophrenia.

Subjects: 205 children, ages 7 to 12 at the initial examination in 1971-73, are being followed longitudinally and are being examined now for the 3d time. Another 150 children, ages 7 to 12, are being examined for the 1st time. The subjects are (1) children of one or two schizophrenic parents, (2) children of parents with other psychiatric disorders, and (3) children of psychiatrically normal parents. At least two children are studied in each family.

Methods: Interviews will be conducted with parents and children in their homes. Teachers will be evaluated. The children's visit to a laboratory includes a variety of psychological tests, a videotaped psychiatric interview, electrophysiology (both autonomic and cerebral measures), neurological examination, and a battery of measures designed to assess attention, distractibility, and stimulus tolerance. Blood biochemistry is studied in collaboration with McLean Hospital, Belmont, Massachusetts.

Findings: Children of one or two schizophrenic parents perform more poorly than comparison subjects on psychological tests of perception, on motor coordination tasks, and on measures of attention and distractibility. Discriminant function analyses utilizing these measures identify approximately 25% of the high risk subjects (children of one or two schizophrenic parents) and approximately 5% of the low risk subjects (children of psychiatrically normal parents or parents with psychiatric illnesses other than schizophrenia) as being deviant scorers. There is a high correlation between the deviant on the discriminant function analyses and clinical deviance that is emerging in the longitudinal follow-up.

Duration: February 1971-March 1982.

Cooperating group(s): (1) New York State Department of Mental Hygiene. (2) W.T. Grant Foundation. (3) National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (4) McLean Hospital, Belmont, Massachusetts.

Publications: (1) Erlenmeyer-Kimling, L; Cornblatt, B.; and Fleiss, J. High-risk research in schizophrenia. ***Psychiatric Annals*** (in press). (2) Friedman, D.; Vaughn, H.F., Jr.; and Erlenmeyer-Kimling, L. Stimulus and response related components of the late positive complex in visual discrimination tasks. ***EEG*** (in press). (3) Friedman, D.; Frosch, A.; and Erlenmeyer-Kimling, L. Auditory evoked response in children at high risk for schizophrenia. In H. Begleiter (Ed.), ***Evoked potential behavior.*** New York: Plenum Press (in press). (4) Erlenmeyer-Kimling, L. Genetic approaches to the study of schizophrenia: The genetic evidence as a tool in research. ***National Foundation, Original Articles Series*** (in press). (5) A list of publications is available from the investigators.

42-LF-4 THE EFFECT OF PARENTAL SUBSTANCE ABUSE ON OFFSPRING

Investigator(s): Joseph Marcus, M.D., Professor of Child Psychiatry and Director, Unit for Research in Child Psychiatry and Development; Rita J. Jeremy, Ph.D., Research Associate and Project Co-Director; Chaya Roth, Ph.D., Research Associate; and Judith Auerbach, Ph.D., Postdoctoral Fellow, Department of Psychiatry, University of Chicago, 950 East 59th Street, Chicago, Illinois 60637. Phone: (312) 947-6506.

Purpose: To study whether parents' use of drugs (methadone in particular) affects the development of their offspring; and if it does, to determine if the effects on infants are due primarily to toxicity ***in utero,*** or if the effects can be traced to genetic damage and can be seen in offspring whose fathers use drugs but whose mothers do not.

Subjects: Four groups of young parents (25 in each group); and their infants: (1) methadone using mothers and drug free fathers, (2) drug free mothers and methadone using fathers, (3) methadone and alcohol using mothers and drug free fathers, and (4) drug free mothers and fathers.

Methods: Parents will be interviewed and tested during the mother's pregnancy, and their infants will be examined at birth and several times thereafter until age 2. Parental research instruments will include family history, Streissguth Inventory of Ingested Substances, Wender Behavior Questionnaire of Hyperactivity, Rosenberg Self-Esteem Scale, Neonatal Perception Inventory, Current and Past Psychopathology Inventory, Wechsler Adult Intelligence Scale, Trails, Medical Symptom Checklist, and the Pregnancy Profile developed by the investigators. Measures for the infants will include (1) during the neonatal period: Brazelton Neonatal Behavioral Assessment Scale, Visual Attention, an electromyographical exam, and observations of mother-infant interactions; and (2) later: Bayley Scales of Infant Development, Uzgiris-Hunt Ordinal Scales of Psychological Development, and observations of mother-infant interaction. Analyses of blood and a check for minor physical anomalies will also be included.

Duration: January 1978-December 1982.

Cooperating group(s): (1) National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Illinois State Department of Mental Health.

42-LG-1 PSYCHOLOGICAL FACTORS IN CHILDREN WITH FACIAL DEFORMATIONS AND THEIR FAMILIES

Investigator(s): Larry M. Raskin, Ph.D., Chief Psychologist and Associate Professor; and Nehad Dinno, M.D., Associate Professor, Department of Pediatrics, Child Evaluation Center, School of Medicine, University of Louisville, Louisville, Kentucky 40202. Phone: (502) 588-5331.

Purpose: To investigate emotional factors and family stresses in children and families when children are born with craniofacial anomalies.
Subjects: Approximately 20 children and young adults, ages 6 to 18, with craniofacial anomalies as a result of birth defect syndromes; e.g., Apert's, Crouzon's, Hallermann, Strieff, etc.
Methods: A comprehensive psychological test battery was administered to the subjects.
Findings: Children experience feelings of isolation, rejection, anger, and depression. Families are at risk: from 60% to 70% divorce and/or suffer many stresses and tensions.
Duration: October 1977-continuing.

42-LG-2 QUESTIONNAIRE ON RESOURCES AND STRESS

Investigator(s): Jean Holroyd, Ph.D., Associate Professor, Department of Psychiatry, and Biobehavioral Sciences, Neuropsychiatric Institute, University of California, 760 Westwood Boulevard, Los Angeles, California 90024. Phone: (213) 825-0145.
Purpose: To develop a questionnaire to evaluate the impact on a family having a handicapped or chronically ill child.
Subjects: 74 heterogeneous outpatient psychiatric patients; 19 children with neuromuscular disease; 14 hard of hearing and deaf children; 34 autistic children; 23 with Down's Syndrome; 21 with Cerebral Palsy; 17 behaviorally disturbed retarded children; 47 applicants for admission to a ward for psychiatrically disturbed mentally retarded adolescents; 8 patients with leukemia; 12 children with renal disease; 27 with cystic fibrosis; and 27 normal control subjects.
Methods: The Questionnaire on Resources and Stress is being administered to the children's parents in a variety of patient populations. An item factor analysis is being used to develop nonoverlapping scales that are useful in making clinically meaningful discriminations among groups.
Findings: The test reliability discriminates among several diagnostic groups.
Duration: 1972-1980.
Publications: (1) Brodsky, A. ***et al.*** Source materials for nonsexist therapy. MS 1685 in ***Catalog of selected documents in psychology.*** Journal Supplement Abstraction Service, Washington, D.C.: American Psychological Association, May 1978. (2) Holroyd, J.C. and McArthur, D. Mental retardation and stress on the parents: A contrast between Down's Syndrome and childhood autism. ***American Journal of Mental Deficiency,*** 1976, 80, 431-436. (3) Holroyd, J.C. ***et al.*** Stress in families of institutionalized and noninstitutionalized autistic children. ***Journal of Community Psychology,*** 1975, 3, 26-31. (4) Holroyd, J.C. The Questionnaire on Resources and Stress: An instrument to measure family response to a handicapped family member. ***Journal of Community Psychology,*** 1974, 2, 92-94.

Childrearing

42-MA-1 A LONGITUDINAL STUDY OF RELATIONSHIPS BETWEEN PARENTAL CHARACTERISTICS AND CHILDREN'S SCHOOL OUTCOMES IN CENTRAL APPALACHIA

Investigator(s): Edward Earl Gotts, Ph.D., Director, Division of Childhood and Parenting, Appalachia Educational Laboratory, P.O. Box 1348, Charleston, West Virginia 25325. Phone: (304) 344-8371.
Purpose: To clarify empirical relationships between the childrearing practices, attitudes, styles, and resources of families and child outcomes in terms of school progress and social competence; and to establish whether the HOPE Experiment (1968-1971) had enduring results still detectible in 1977-1979.

Subjects: 341 children, ages 11 to 15, including approximately equal numbers of boys and girls representing all social, racial, and ethnic variations prevalent in southern West Virginia; their parents; and younger siblings. One-third of the sample was a comparison group, and the remainder, two treatment conditions (all assigned randomly to conditions in 1968-1971).
Methods: This is a longitudinal follow-up study. School personnel supplied information from cumulative records on each child's progress in terms of standardized tests used with the children in grades 1 through 9, school attendance records, and school grades. Teachers also completed a School Nominations Checklist. Children will subsequently complete the Tasks of Emotional Development Test and answer direct interview questions related to their educational progress and aspirations. Parents will respond to both direct and indirect interviews related to childrearing practices, perceptions, and attitudes. These interview measures of parents include scales drawn from standard demographic surveys, Maryland Parent Attitude Survey, Cognitive Home Environment Scale, Sex Role Orientation Scale, Rotter Internality-Externality Scale, Fels Research Institute Parent Interviews, and a new measure of parents' differing orientations toward rearing children of differing developmental ages. Younger siblings will be studied using similar school records, the Tasks of Emotional Development Test, and measures of intellectual and social competence (including the AID Scales for children under age 6). Parents and children from treated and control groups will be compared. Analyses will focus on mean differences and on prevalence of particular indicators of school difficulty (retention in grade, special class placement, presence of behavioral difficulty). Moreover, correlational analyses within the treated and comparison groups will be used to identify relationships between parent and child variables.
Duration: June 1978-November 1979.
Cooperating group(s): National Institute of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-MC-1 ASSESSING AND DEVELOPING THE COMPETENCE OF PARENTS

Investigator(s): Bruce McMillan, M.A., Senior Lecturer, Department of Education, University of Otago, P.O. Box 56, Dunedin, New Zealand.
Purpose: To provide two contrasting parent education programs; and to investigate the extent to which the programs effect differences in the basic parenting competencies demonstrated by the parents.
Subjects: 50 married couples with a firstborn child, age 13 to 15 months, at the beginning of the parent education programs. Families represent various educational backgrounds and socioeconomic rankings typically found in New Zealand urban areas.
Methods: Pre- and posttreatment assessments of competence are based on (1) Caldwell's HOME Inventory; (2) a structured observational exercise to assess verbal responsiveness; (3) a short form of the Parental Attitude Research Instrument (PARI, Schaefer and Bell); (4) individual interviews to obtain data on feeding, sleeping, and various other caregiving behaviors and to assess parents' expectations for the developmental pattern their child will demonstrate; and (5) a multiple-choice test of knowledge about children developed for this project. In addition, there is a set of pre- and posttreatment observations for a subsample of 15 families. These eight weekly pretreatment observations (using an interval recording technique for three 15-minute sessions each week) record incidencies within 10 basic categories of competence. The 10 general competencies are (1) opportunities for interaction, (2) providing an appropriate play environment, (3) providing opportunity for variety in sources of stimulation, (4) providing routine caregiving, (5) organization of the environment, (6) encouragement of independence, (7) verbal responsiveness, (8) emotional responsiveness, (9) developing control through praise and minimizing punishment, and (10) knowing community resources and coping with emergencies. The whole sample is subdivided into three parent education programs: Group 1 (N = 17) receives a seminar-discussion program conducted by the investigator for 10 weekly 1½-hour sessions. Group 2 (N = 16) receives a weekly home visit from a trained and experienced visitor, who comes for 10 sessions and bases her visit on the same

material used in Group 1. Group 3 (N = 17) is a control group that will receive the same parent education program as Group 1 after the project has concluded this phase.

Findings: The posttreatment assessments and evaluation of the parent education program is in progress. Pretreatment assessments yielded valuable information about parents' knowledge, attitudes, expectations, and daily behaviors. Caldwell's HOME Inventory yielded X = 38.7 (on 45 items for the 0-3 version), with S.D. = 3.2, and range 31-44.

Duration: March 1978-August 1979.

Cooperating group(s): (1) University Grants Committee, New Zealand. (2) New Zealand Government Department of Education. (3) University of Otago Research Committee.

42-MD-1 EARLY SOCIAL DEVELOPMENT OF SPECIAL CARE BABIES

Investigator(s): Harry McGurk, Ph.D., Senior Lecturer; and P. Greenfield; and A. Mitchell, Research Fellows, Department of Psychology, University of Surrey, Guildford, Surrey, England GU2 5XH. Phone: Guildford 71281.

Purpose: To determine whether there is any effect on early social development of the separation between mother and infant which normally occurs when babies are admitted at birth to a special care unit.

Subjects: 70 mother-infant pairs.

Methods: Methodology involves interviews, observation, and standardized testing procedures.

Duration: March 1977-February 1979.

Cooperating group(s): United Kingdom Department of Health and Social Security.

42-MD-2 THE CHARACTERISTICS AND CONTEXTS OF ADULT-CHILD DIALOGUE AT HOME

Investigator(s): Barbara Tizard, Ph.D., Reader in Education; and Helen Carmichael, B.Sc.; Gillian Pinkerton, B.Sc.; and Martin Hughes, Ph.D., Research Officers, Thomas Coram Research Unit, Institute of Education, University of London, 41 Brunswick Square, London, England WC1N 1AZ. Phone: 278-2424.

Purpose: To study and compare the language interactions of adults and children in the home and in the nursery school and across these settings to relate certain characteristics of the interactions to the contexts in which they occur.

Subjects: 15 working class and 15 middle class girls, age 4.

Methods: The investigators will examine who initiates and sustains conversation at home and in the nursery school, what function is served by the conversation, what cognitive and/or other demands are made by the adult and child on each other, and in what context the conversations occur. The conversations of the 4-year-old girls were recorded at home and at school using radio transmitters. Recordings were made of each child for 2 hours at school in the morning and for 2 hours in the afternoon at home. Aspects of the language of the mother, the teacher, and the child are being analyzed.

Duration: April 1976-August 1979.

Cooperating group(s): Social Science Research Council.

42-MD-3 MATERNAL PERSONALITY AND ITS RELATIONSHIP TO MOTHER-INFANT INTERACTION DURING PLAY

Investigator(s): D.B. Cook, M.A., Ph.D. Candidate; and Otto Weininger, Ph.D., Associate Professor, Department of Applied Psychology, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6. Phone: (416) 923-6641, Ext. 564.

Purpose: To assess relationships between mother and infant behavior and the maternal personality factors described; to analyze data to determine if personality is related to language style; and to suggest certain patterns related to maternal personality that can clarify the issues of attachment and cognitive growth in early childhood development.
Subjects: 51 middle class, highly motivated mothers and their firstborn infants, age 10 months.
Methods: All mothers completed a projective personality test which measures the amount of control exerted over the expression of two basic drives: aggression and dependency seeking. In addition, the mothers took part in a structured interview. The interview consisted of a medical and developmental history of mother and baby and a set of questions designed to stimulate verbal responses that would mirror attitudes toward infant care while providing a sample of conversation from which an analysis of maternal language style could be made. Then, all subjects were brought into a controlled setting – a playroom – and (1) mothers were asked to play with their children as they would normally when uninterrupted at home, and (2) mothers were given a special toy suggestive of several play possibilities and were asked to teach a concept to their children. Play sessions were videotaped for analysis using a reciprocal category system that codes all mother-infant and infant-mother interactions into 10 behavioral categories.
Duration: January 1977-March 1979.

42-MD-4 MOTHERS' SPEECH TO YOUNG CHILDREN: WHAT IS A QUESTION?

Investigator(s): Marjorie R. Arnold, Ph.D., Assistant Professor; and Anita Esposito, M.A., Student, Department of Educational Psychology, Rutgers University, 10 Seminary Place, New Brunswick, New Jersey 08903. Phone: (201) 932-7180; and Barbara Landau, M.A., Student, University of Pennsylvania, Philadelphia, Pennsylvania 19104.
Purpose: To investigate the relation between the form, function, and style of mothers' questions and the ways in which the children respond to them.
Subjects: Two white, middle class infants and their mothers were studied longitudinally from the time the children were 13 months old until they were 26 months old.
Methods: The form, function, and style of mothers' questions to their infants were evaluated from data taken from seven tapes of hour-long play sessions made at 2-month intervals and consisted of all questions asked by a mother in 12 consecutive minutes. Questions were categorized for linguistic form (what, where, can, etc.), syntactic completeness, communicative function (requests to act or verbalize), and relevance to the child's behavior.
Findings: The percentage of mother verbalizations which were questions ranged from 28% to 65% and the mothers clearly adapted questions to their children's abilities. Major question forms for all samples were ***what, where,*** and ***can;*** label questions, prominent in early tapes, soon dropped out, coincident with the first 2-word child utterances. Mothers asked primarily relevant questions and directives; few questions were requests for information the mother did not have. Approximately 30% each were requests for simple actions and short verbalizations, both well within their children's competence. The pattern of question function functions seemed to account for the particular question forms used most frequently.
Duration: Completed.
Cooperating group(s): Rutgers Research Council.
Publications: A paper presented at the Annual Meeting of the American Psychological Association, San Francisco, August 1977: Arnold, M.R.; Landau, B.; and Esposito, A. Mothers' speech to young children: What is a question?

42-MD-5 MULTIPLE BIRTH INFANTS: A LONGITUDINAL STUDY

Investigator(s): Vita Krall, Ph.D., Chief Child Psychologist; and Sherman Feinstein, M.D., Director of Psychiatric Training, Michael Reese Hospital, 29th Street and Ellis Avenue, Chicago, Illinois

60616. Phone: (312) 791-2000; and Dennis Kennedy, Ph.D., Chief Psychologist, Child Guidance Clinic, Winston-Salem, North Carolina 27101.

Purpose: To study multiple birth families (triplets, quadruplets, quintuplets) in their natural setting, in order to study closely the development of children with similar genetic factors, born of the same parents, and at the same era in the life of a family, focusing on mental and motor development and attachment.

Subjects: 19 infants (one set of quintuplets, two sets of quadruplets, and two sets of triplets).

Methods: The infants are being seen in their homes at 3-month intervals to age 18 months; 6-month intervals to age 2½; and yearly thereafter. The research instruments include the Bayley Scales of Infant Development, yielding a mental and motor index; the Decarie Scales of Object Constancy and Object Relations, yielding criterion scores and month scores. These findings have been correlated with birthweight and with each other to give information on effects of prematurity and multiple caretaking figures.

Findings: Preliminary findings indicate that there is a correlation between mental and motor development and birthweight. The infants become normative in both mental and motor development by 2 years in comparison to norms for singleton full-term infants.

Duration: March 1973-continuing.

Cooperating group(s): Michael Reese Hospital and Medical Center, Clinical Research Committee.

42-MD-6 HOW CHILDREN COPE WITH PARENTAL REJECTION

Investigator(s): Ronald P. Rohner, Ph.D., Professor; Evelyn C. Rohner, Ph.D., Assistant Professor-in-Residence; and Christine Chaille, Ph.D., Assistant Professor, Department of Anthropology and Human Development, University of Connecticut, Storrs, Connecticut 06268. Phone: (203) 486-2000.

Purpose: To identify significant social-cognitive and social-situational (including familial) factors that distinguish children who cope relatively effectively with perceived parental rejection from children who are less able to cope.

Subjects: 200 children, ages 8 through 12, from working class families in Connecticut. "Copers" are defined as children who perceive their parents as rejecting but who fall into the positive mental health range of a set of behavioral and personality dispositions.

Methods: The methodology consisted of self-report questionnaires, interviews, and demographic information. Self-report questionnaires: The Parental Acceptance-Rejection Questionnaire measures children's perceptions of their parents' behavior toward them in terms of (1) warmth and affection, (2) hostility and aggression, (3) indifference and neglect, and (4) undifferentiated rejection. The Personality Assessment Questionnaire measures children's personality and behavioral dispositions for aggression, dependency, self-esteem, self-adequacy, emotional responsiveness, emotional stability, and world view. Both questionnaires have been validated and reliability tested according to APA quidelines. The children were administered the Embedded Figures Test (EFT) and Locus of Control – Nowicki-Strickland version.

Findings: As estimated by the EFT and by the IE scales respectively, it seems that rejected children do have a significantly less differentiated sense of self and a less well developed sense of self-determination than accepted children. Even though significant differences between copers and noncopers were not found, the directionality of these data suggests the likelihood that copers are at least somewhat more self-differentiated and self-determining than noncopers.

Duration: September 1977-continuing.

Cooperating group(s): (1) University of Connecticut, Research Foundation. (2) University of Connecticut, Computer Center.

Publications: Rohner, R.P. and Rohner, E.C. Coping with perceived parental rejection: Correlates of social cognition. In L.H. Eckensberger ***et al.*** (Eds.), ***Cross-cultural contributions to psychology: Selected papers from the IVth IACCP Congress.*** Amsterdam, The Netherlands: Swets and Zeitlinger, 1979.

42-MD-7 PARENT BEHAVIOR TO MODIFY CHILD NONCOMPLIANCE

Investigator(s): Rex Forehand, Ph.D., Professor, Department of Psychology, University of Georgia, Athens, Georgia 30602. Phone: (404) 548-1046.
Purpose: To develop procedures to teach parents to modify children's noncompliance.
Subjects: Boys and girls, ages 3 to 9; and their mothers.
Methods: In 8 to 10 clinic sessions, positive reinforcement and timeout skills were taught to mothers and then practiced through role playing and modeling exercises with their child. Dependent measures are direct observation, parent attitude measures, and parent collected data. Intervention effects will be assessed in the home before and after intervention and up to 1 year after treatment.
Findings: Behaviors of parents and children change, and these changes generalize to home, across siblings, and across time. However, there appears to be no noticeable change in school behavior.
Duration: September 1977-September 1981.
Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-MD-8 CHILDREN'S PERCEPTIONS OF THEIR PARENTS AND THEMSELVES

Investigator(s): Anne Silcock, Ph.D., Senior Lecturer, Department of Education, University of Queensland, St. Lucia, Brisbane, Queensland, Australia 4067. Phone: 377-3208.
Purpose: To further understand children's subjective views of significant others and themselves.
Subjects: 600 children: 100 boys and 100 girls each at ages 6, 7, and 8, attending three state primary schools that cater to children from lower, middle, and upper middle class homes.
Methods: Children were given unstructured sentence completion tasks; e.g., "Mothers are . . ." (repeated twice), and "Fathers are . . ." (repeated twice). Later, the children were given both the Rogers Test of Personality and a structured forced choice questionnaire of characteristics to be attributed to either fathers or mothers based on the items used by Kagan ***et al.*** (1960). The tasks were administered in the classrooms with the aid of teachers who answered questions if children were unsure of the proceedings or could not spell a word they wanted to use.
Findings: Significant differences were found between children's spontaneous responses to the sentence completion task and to their assignment of items to fathers or mothers in the forced choice situation.
Duration: 1976-1979.
Cooperating group(s): Federal Research Grants.
Publications: A preliminary research report published in ***Australian Journal of Early Childhood,*** March 1979.

42-MD-9 GAMES: COMMUNICATIONS BETWEEN GENERATIONS

Investigator(s): Beatrice R. Metalitz, Ph.D., Director, BEAM Educational Counseling Service, 11202 Newport Mill Road, Kensington, Maryland 20795. Phone: (301) 946-0816.
Purpose: To study the process of games transmittal from generation to generation focusing on discontinuity.
Subjects: Senior citizens, grandparents, parents, and their children.
Methods: Information was gathered at workshops conducted for senior citizens, church groups, extension groups, PTAs, etc. concerning the games adults played as children. The most frequently mentioned games then were introduced to children in school and community groups. Investigators noted which games were new to the children and which they knew in some variation form. Lists were compiled of games that had been transmitted and those that had not. The characteristics of each list were analyzed and conclusions warranted by the data were drawn.

Findings: Similar games played by successive generations before the advent of TV are a discernible factor in children's lives.
Duration: 1977-1980.
Publications: (1) ***Co-op Consumer*** – Monthly Column, "Alert Consumerisms," 9/76 – 6/77. (2) ***Journal of Childhood Education,*** May 1972. (3) ***Today's Education,*** December 1969.

42-MD-10 LONGITUDINAL STUDY OF THE SOCIALIZATION PROCESS

Investigator(s): Jarmila Kotásková, Ph.Dr., C.Sc., Scientific Worker, Institute of Psychology, Academy of Sciences CSSR, Purkynova 2, Prague 1, Úvoz 24, Czechoslovakia 11000.
Purpose: To compare the history of social reinforcements and modeling of behavior in children with their later adjustment, moral values, and personality measures.
Subjects: 23 girls and 17 boys, investigated at ages 18 months and 3, 4½, 6, and 7½ years; and their parents. In 7½ years, all schoolmates (870 second graders) of the children investigated longitudinally were also studied.
Methods: Using a one-way screen, observations were made of mother-child interactions, and investigators rated the child's social activities and the mother's reinforcements. Later, mothers were interviewed and given a questionnaire. Both parents were given a battery of tests: the Parents' Attitude Research Instrument, the 16 Personality Factor Questionnaire, the Interpersonal Check List, the Littmann-Kasielke Educational Attitudes Questionnaire, and the Schutz FIRO-B. The child participated in experiments to measure resistance, dependency, persistency, achievement, problem solving, rule learning, resistance to temptation, imitation, cheating, etc. Additionally, in the 4½- and 6-year age levels, children were tested using the Doll-play technique, the Competitive Games ("Bus"), and the External-Internal Control Scale. At the 7½ age level, testing included the Semantic Differential Technique, Moral reasoning, External-Internal Control Scale (plus teacher's rating and Sociogram in the classroom).
Findings: Different (age-related and individually specific) meaning of signals used by the mother as ***reinforcers*** is revealed; general change in prevalence of learning mechanisms is responsive.
Duration: 1968-1980.
Publications: Kotásková, J. Variance významu sociálního působení na dítě (Variance in meaning of the social impact on the preschool child). ***Československá psychologie,*** 1976, 5(XX), 431-439.

42-MD-11 INFANT-MOTHER MUTUALITY AND ORIGINS OF ATTACHMENT

Investigator(s): Alan Fogel, Ph.D., Assistant Professor, Department of Child Development and Family Studies, Purdue University, West Lafayette, Indiana 47097. Phone: (317) 494-1804.
Purpose: To study the ontogenesis of the mother-infant relationship in the first year of life.
Subjects: Four case studies involve two boys and two girls.
Methods: Subjects were videotaped in a laboratory setting once each week from birth to age 1 in a variety of play situations. There were two cameras, one focused on the mother and one on the infant mixed with a special effects generator. A digital clock, accurate to .01 seconds, was superimposed on the screen. Coding (in process) is done by linking specified behavioral events to the time on the clock. Coding is continuous and not time-sampled. There are over 100 categories of infant and mother behavior designed to achieve a fine-grained picture of the development of social signals and rules between a mother and infant over the first year of life. All parts of the infant's face and body are coded, including arms, hands, legs, brows, mouth, head, and fingers. Maternal nonverbal behavior is coded in similar detail, and a transcription of the mother's utterances is also underway.
Duration: September 1977-September 1980.
Cooperating group(s): National Science Foundation.

42-MD-12 A LONGITUDINAL STUDY OF CHILD DEVELOPMENT

Investigator(s): Stephen N. Wolkind, M.D., M.R.C.Psych., Senior Lecturer; and Fae Hall, M.A., D.Phil., Research Fellow, Family Research Unit, London Hospital Medical College, 16 Walden Street, London, England E.1. Phone: 01-247-2843.

Purpose: To study the development of children longitudinally from birth, paying particular attention to factors associated with behavioral and emotional disorders in the preschool years.

Subjects: 220 British-born women and their firstborn children, selected in pregnancy from the predominantly working class population of a deprived inner city area of London. Three samples are being studied: a randomly selected married group, a married group with a high prevalence of factors that would be expected to lead to difficulties in mothering, and a group of single women.

Methods: All mothers in the study were interviewed in late pregnancy and when their child was 4, 14, and 27 months old and 3½ years old. The interviews are in a standard form and cover factors such as the parents' family backgrounds, the mothers' current mental state, the quality of the marital relationship, methods of child care, kin contacts, current stress factors, the child's temperamental characteristics, and other details of the child's life and behavior, including current emotional and behavioral difficulties. To obtain independent and more detailed information on the child's behavior and on mother-child interaction, a subsample of 80 of the families is included in an observational study using an ethological approach. Children in the observational subsample were examined using the Brazelton Neonatal Behavioral Assessment at age 6 days, and then were observed with their mothers at home at 4, 14, and 27 months. At 27 months, in addition, pairs of mothers and their children were observed in a playroom setting and the child was given the Reynell Language Test. At 3½ years, mother and child were seen in the playroom only, and the Stanford-Binet Test was given to the child. The observers also made clinical evaluations of the child's behavior at 27 months and 3½ years, and behavioral ratings at age 3½ have been obtained from the child's nursery teacher.

Findings: In the inner London working class population studied, women who gave birth to their first child when under age 20 were found to experience many more difficulties of all kinds than women who were over age 20 when their first child was born, and the under-20 mothers were more likely than other mothers to have come from a family disrupted by death, divorce, or separation. Among married women in the study, depression in pregnancy and at various points after the birth showed considerable continuity over time and was most likely to occur among women who reported trouble with their nerves or treatment with sedatives or antidepressants before conception. In the observational study, when their babies were age 20 weeks, mothers from a disrupted family of origin were found to interact with their infants very significantly less than other mothers; and at age 27 months, the children of these same mothers showed a small but significant delay in language development.

Duration: 1974-1980.

Cooperating group(s): (1) Medical Research Council. (2) SSRC/DHSS Working Party on Transmitted Deprivation.

Publications: (1) Zajicek, E. and Wolkind, S.N. Emotional difficulties in married women during and after the first pregnancy. ***British Journal of Medical Psychology,*** 1978, 51, 379-385. (2) Wolkind, S.N. and Zajicek, E. Psycho-social correlates of nausea and vomiting in pregnancy. ***Journal of Psychosomatic Research,*** 1978, 22, 1-5. (3) Wolkind, S.N. ***et al.*** Individual differences in mothering behaviour: A combined epidemiological and observational approach. In P. Graham (Ed.), ***Epidemiological approaches in child psychiatry.*** Academic Press, 1977. (4) Wolkind, S.N. Women who have been "in care." – Psychological and social status during pregnancy. ***Journal of Child Psychiatry,*** 1977, 18, 179-182. (5) Hall, F. Pre-natal events and later infant behaviour. ***Journal of Psychosomatic Research,*** 1977, 21, 252-257.

42-MD-13 HUMAN DEVELOPMENT STUDY

Investigator(s): Eleanor S. Wertheim, Ph.D., Senior Research Fellow, Department of Pediatrics; Kathleen M. Farrelly, B.Phty., Antenatal Physiotherapist; Anne Fleming, SRN, SRM, Dip.C.H.N., Sister-in-Charge of Antenatal Preparation in Parentcraft; and Norman Morris, M.B., B.S., M.R.C.O.G., F.A.G.O., Obstetrician, Queen Victoria Medical Centre, Monash University, 172 Lonsdale Street, Melbourne, Victoria, Australia 3000. Phone: 66 6046, Ext. 417.

Purpose: To define stages, if any, in the development of parental function through pregnancy, birth, and early postnatal development; to develop indices of parenting potential for preventive purposes; and to study the origins of social (transactional) development.

Subjects: Six to eight couples expecting their first baby, chosen on medical criteria of low risk for prenatal and birth complications, followed up at frequent intervals.

Methods: Videotaped records of sessions of antenatal preparation and birth will be collected (design of postnatal follow-up subject to funding). Then, the records will be subjected to objective analysis. Inventories will evaluate the couples on (1) psychosocial reality, including social support systems (using an adaptation of Pattison's Social Network Inventory); and (2) mutual psychophysiological adaptation (using specially designed Parental Time Schedules based on B.P. Keenes, R.E. Cromwell, and B.N. Adams ***Temporal Patterning in the Family,*** a paper prepared for the NCFR Preconference Theory Development and Methodology Workshop, San Diego, California, October 1977). In addition, each couple will keep a diary.

Duration: 1978-1980.

Cooperating group(s): James and Una Porter Fund for the Study of Human Development and Behavior.

Publications: (1) Wertheim, E.S. ***Vulnerable children.*** Year book of the International Association for Child Psychiatry and Allied Professions. Volume IV. New York: John Wiley and Sons, 1978; and Paris: Presses Universitaires Francaises (in press). (2) Wertheim, E.S. Person-environment interaction: The epigenesis of autonomy and competence. I. ***British Journal of Medical Psychology,*** 1975, 48, 1-8. (3) Wertheim, E.S. Person-environment interaction: The epigenesis of autonomy and competence. II. ***British Journal of Medical Psychology,*** 1975, 48, 95-111. (4) Wertheim, E.S. Person-environment interaction: The epigenesis of autonomy and competence. III. ***British Journal of Medical Psychology,*** 1975, 48, 237-256. (5) Wertheim, E.S. Person-environment interaction: The epigenesis of autonomy and competence. IV. ***British Journal of Medical Psychology,*** 1975, 48, 391-402.

SOCIOECONOMIC AND CULTURAL FACTORS

42-NA-1 ASIAN CHILD DEVELOPMENT PROJECT IN THE BAY AREA

Investigator(s): Amado Y. Cabezas, Ph.D., Director, Asian Child Development Project, ASIAN, Inc., 1610 Bush Street, San Francisco, California 94109. Phone: (415) 928-5910.

Purpose: To describe early childhood development in Asian American and Samoan populations and to assess their needs; and to disseminate information, provide other technical assistance, and pursue research indicated by the needs assessment.

Subjects: A random sample of approximately 150 families with children under age 7 for each of the following ethnic groups in the San Francisco-Oakland standard metropolitan statistical area: Chinese, Filipino, Japanese, Korean, Vietnamese, Cambodian, and Samoan.

Methods: For each Asian American and Samoan ethnicity, correlations will be explored between child development and family constellation, acculturation, socioeconomic status, socialization, and values and practices. Families' knowledge will be surveyed related to the need for and utilization of generic types of services in child care, health, education, and other social services. Family interviews (including questionnaire administration and participant observation) and a mail survey will be conducted on a random sample of children born in the study area. Those born abroad will be sampled from records of public preschools, child care service programs, referral services, immigration records and services, etc. Consultants from each ethnicity (mostly postgraduate students in social welfare, psychology, and sociology) participated in the modelling, review of independent variables for each model factor (e.g., family acculturation), and the interview format. Data for variables also are being collected from immigration records for demographic data and from census data for socioeconomic characteristics. A computer search has been made of the literature. The community and other agencies and programs for Asian American and Samoan children will be surveyed. Information dissemination and technical assistance are scheduled for 1979.

Findings: An ecological model for early childhood development in Asian American and Samoan populations has been developed. Analyses of primary data to test the model began in late 1978.

Duration: September 1977-September 1980.

Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-NA-2 EARLY CHILD DEVELOPMENT AND THE HOME ENVIRONMENT

Investigator(s): Alex McGlaughlin, Ph.D., Lecturer; Janet Empson, Ph.D., Research Fellow; and Jill Sever, Ph.D.; and Maura Morissey, B.A., Research Assistants, Department of Psychology, Hull University, Cottingham Road, Hull, North Humberside, England. Phone: 0482-46311.

Purpose: To investigate the relationship between mother-child interaction at ages 2 and 3 and later developmental outcomes for deprived children; and to compare within and between family processes by contrasting sibling mothers with unrelated mothers.

Subjects: Group 1: 30 mothers with an infant under age 1. Group 2: 30 sisters of the mothers in Group 1 with an infant under age 1. All mothers have low incomes, live in poor housing, and neither they nor their husbands are well educated.

Methods: Mothers and children will be studied in their homes when the children are age 1 and at intervals until they are 30 months old (the crucial period for the development of communication and mobility). The investigation will include (1) interviews with each mother, (2) compilation of a family history, (3) assessment of each child's development using a version of the Illingworth Developmental Assessment and the Reynell Language Developmental Scale, and (4) filmed observations of each mother and child interacting. Comparisons will be made within as well as between families. Analyses of the data obtained will determine the extent to which the development of

disadvantaged children (1) is influenced by the quality of interaction they have with their mothers; (2) is affected by changes of circumstance; e.g., father's employment, housing; and (3) can be described in terms of continuities that run within families.

Duration: April 1975-September 1979.

Cooperating group(s): (1) Department of Health and Social Security. (2) Social Science Research Joint Working Party on Transmitted Deprivation. (3) Social Science Research Council, Psychology Committee.

42-NA-3 VALUE ORIENTATIONS OF ADOLESCENTS AND THEIR PARENTS: POLYNESIAN AND PAKEHA

Investigator(s): Michael D. Hills, Ph.D., Senior Lecturer; and Rev. R.M. Lane, M.Theo., M.Soc. Sci., Visiting Lecturer, Department of Psychology, University of Waikato, Private Bag, Hamilton, New Zealand. Phone: 62-889, Ext. 4903.

Purpose: To establish basic value orientations held by adolescents and their parents in Maori, European, South Pacific immigrant, and Pacific Islander families; and to measure the degree and type of disparity in values held by two generations.

Subjects: Approximately 330 families (one child, age 15 to 16; two parents or guardians). At least 30 families had been interviewed for each of the following 11 sample sections: European, Maori (urban and rural), migrant Cook Islanders, migrant Western Samoans, home country Fijians (urban and rural), home country Cook Islanders (urban and rural), and home country Western Samoans (urban and rural).

Methods: A 25-item questionnaire was devised to cover Kluckholm's five value orientation areas. Items were worded as fixed-alternative ranking scales – five items to each value orientation area. Care was taken to make them meaningful and relevant to inhabitants of the South Pacific, both European and Polynesian. Questionnaires were administered in the respondents' homes. A variety of methods was used, depending on the respondents' literacy and first language, which ranged from administering the questionnaire in English to a taped oral administration in respondents' first language. Demographic data were also collected reflecting familial structure, social status, and religious persuasion, etc. Value profiles were constructed for both generations at each subgroup and were compared. Each child's score was computed reflecting the degree to which s/he disagreed with parents on individual items (called a "disparity score"). Then this was tested as the variable dependent on demographic independent variables.

Findings: There are fairly similar profiles on time, and some variation on relationships, activity, man-nature, and human nature. The greatest disparity was found in migrant Samoan and homeland rural Samoan families; least disparity, in European New Zealander families. The strongest demographic predictor is urbanization, with greater disparity in rural rather than in urban families.

Duration: 1974-1979.

Cooperating group(s): (1) New Zealand Council for Educational Research. (2) University of the South Pacific, Fiji. (3) Western Samoan Government. (4) Methodist Church, Fiji. (5) Teachers Training College, Cook Islands.

Publications: (1) Hills, M.D. and Aoneyali, E.M. ***Fijian family values.*** Wellington: New Zealand Council for Educational Research, 1979. (2) Hills, M.D. and Pauli, M. ***Samoan family values.*** Wellington: New Zealand Council for Educational Research, 1979. (3) Lane, R.H. Polynesian or Pakeha? Unpublished M.Soc.Sci. thesis, University of Waikato, 1976.

42-NB-1 UNDERGRADUATES' ATTITUDES TOWARD EMPLOYMENT

Investigator(s): Geoffrey Brown, Ph.D., Director; and Moira T. Peelo, M.Phil.; and Sandra M. Pearce, B.Phil., Research Officers, Department of Educational Research, University of Lancaster, Bailrigg, Lancaster, England LA1 4YL. Phone: 0524-65201.

Purpose: To investigate undergraduates' attitudes toward employment in industry, commerce, and the public sector; to attempt to locate their attitudes within a wider matrix of attitudes and beliefs; and to investigate possible changes in students' attitudes during the years in higher education.

Subjects: Approximately 1,200 first and final year undergraduates in English universities, drawn from a stratified sample of courses (physics, civil engineering, economics, and mathematics) with high and low proportions of graduates entering industry; and approximately 500 undergraduates who formed an interview subsample.

Methods: An extensive questionnaire on attitudes toward social and political issues, employment aspirations and experiences, and general biographical information was given to all students in selected courses. A subsample was interviewed for additional information. Repeat measures will be performed on each group 1 year later, thereby giving two short longitudinal studies of Year 1 into Year 2, and Year 2 into Year 3. Information will be derived on the extent to which reluctance to enter certain sectors is due to specific stereotypes or is part of a general sociopolitical orientation. Data will also provide evidence on the entrants' attitudes toward university and polytechnic courses, and possible changes due to experience, type of course studied, home background, etc.

Duration: August 1977-August 1979.

Cooperating group(s): Joseph Rowntree Memorial Trust.

42-NB-2 EXEMPLARY WORK EXPERIENCE PROJECTS

Investigator(s): Mary Conway Kohler, Judge, Executive Director, National Commission on Resources for Youth, Inc., 36 West 44th Street, New York, New York 10036. Phone: (212) 682-3339.

Purpose: To identify exemplary youth employment programs that contribute to youth development through youth participation.

Subjects: Model youth employment and training projects and their teen-age or preteen participants.

Methods: Phase I of this national effort to identify model projects will be limited to locating two exemplary projects known to the New York headquarters of the National Commission on Resources for Youth and/or its associates. This effort will begin before any of the planned contractual agreements for identifying programs have been worked out. Nevertheless, the selection will include one community improvement project and one youth employment and training effort involving school credit. During Phase II, model projects will be searched nation-wide, and the investigators plan to research up to six different projects throughout the United States each month. An attempt will be made to match every project identified as a youth employment and training project with a second that is a community improvement project. By the end of the contract period, 20 to 24 Youth Employment and Demonstration Projects Act (YEDPA) projects in existence will have been selected, and case studies will be completed that are representative of rural and urban areas throughout the nation.

Findings: Twenty case studies have been completed.

Duration: April 1978-April 1979.

Cooperating group(s): Office of Youth Programs, Employment and Training Administration, U.S. Department of Labor.

Publications: Case studies will be available from the U.S. Department of Labor.

42-NG-1 LIVING AND WORKING IN A MOSLEM COUNTRY

Investigator(s): Valerie J. Bredemeier, A.B., Department of Education, St. Mary's College, Moraga, California 94575. Address correspondence to: 611 Western Drive, Point Richmond, California 94807.

Purpose: To prepare American families planning to work overseas to cope with potential difficulties.
Subjects: Individual family members over age 7 living in Moslem countries. Families have at least one parent who was born in the United States.
Methods: American family members were interviewed who reside in Libya, Afghanistan, Saudi Arabia, Iran, Pakistan, and Malaysia. The interviews elicited information on the special problems and concerns encountered by Americans living in Moslem countries.
Findings: Some useful data have been collected; e.g., questions to ask employers before leaving for overseas duty, etc.
Duration: January 1977-completed.
Publications: Information is available from the investigator.

42-NG-2 A STUDY OF FAMILY HISTORY

Investigator(s): Andrew Greeley, Ph.D., Director, Center for the Study of American Pluralism; William McCready, Ph.D., Senior Study Director; and Joan L. Fee, Assistant Study Director, National Opinion Research Center, University of Chicago, 6030 South Ellis Avenue, Chicago, Illinois 60637. Phone: (312) 753-1513.
Purpose: To investigate the way in which different ethnic groups transmit values, especially educational and occupational values, from one generation to another using the method of family history and the technique of survey research.
Subjects: Approximately 500 families containing an adolescent, ages 12 to 17, living within the Chicago Standard Metropolitan Statistical Area (SMSA), from one of five ethnic groups: Blacks, Irish Catholics, Japanese, Jews, or Koreans; and a white Protestant control group.
Methods: Subjects were sampled according to two procedures. The two ethnic groups (Japanese and Koreans), which each comprised fewer than 1% of the Chicago SMSA total population, have been list sampled from telephone directories compiled by ethnic organizations. The remaining four groups were selected using random digit dialing with a cluster design. One adolescent, one parent, and, when available, one grandparent in each family completed a self-administered survey questionnaire.
Duration: January 1978-June 1979.
Cooperating group(s): National Endowment for the Humanities.
Publications: Information is available from the library of the National Opinion Research Center.

42-NG-3 ASSESSMENT OF SOCIAL COMPETENCE AMONG ADOLESCENT NAVAJO RURAL YOUTH

Investigator(s): Victor A. Christopherson, Ed.D., Professor, Child Development and Family Relations, University of Arizona, Tucson, Arizona 85721. Phone: (602) 626-4723.
Purpose: To assess social attitudes among adolescent Navajo rural youth in Arizona.
Subjects: Approximately 300 Navajo parents of teen-agers, and an equal number of their high school girls and boys.
Methods: This study, part of a larger project, which includes all states in the Western United States Region, is to be completed in two phases. During Phase I, all states in the Western Region collected data from parents, caretakers, and secondary sources (officials, school personnel, public health nurses, etc.) who live or work with adolescent rural youth. The Arizona parent interviews will be carried out by Navajo interviewers, in the Navajo language, using the Navajo Parent Interview Form (1978). The interviews deal with parental concepts of: appropriate childrearing practices, occupational aspirations, education, discipline, historical change, etc. During Phase II, to be completed during 1979, data will be collected from Navajo teen-agers (possibly Hopi teen-agers).

Duration: 1976-1980.
Cooperating group(s): (1) U.S. Department of Agriculture, Regional Funds. (2) Arizona State Funds.

42-NG-4 BILINGUAL EDUCATION FOR CHOCTAWS OF MISSISSIPPI

Investigator(s): J. Robert Scott, Ph.D., Director, Department of Education; Edmond Lewis, B.A., Project Director; and Larry Mardis, Ph.D., Project Evaluator, Mississippi Band of Choctaw Indians, Route 7, Box 21, Philadelphia, Mississippi 39350. Phone: (601) 656-5813.
Purpose: To evaluate the effectiveness of a bilingual education demonstration project for Choctaw children.
Subjects: 345 Choctaw-speaking children in grades K-3.
Methods: The evaluation of this bilingual education demonstration project will employ a quasi-experimental design using norm referenced comparison for pupil achievement evaluation.
Findings: Pupils in the bilingual program progress better than pupils not in the program.
Duration: July 1974-June 1980.
Cooperating group(s): Office of Bilingual Education; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

EDUCATIONAL FACTORS AND SERVICES

General Education

42-OA-1 EVALUATION OF EFFECTIVENESS – *NEW MODEL ME* CONTINUING ADOPTER SITES

Investigator(s): Marvin Pasch, Ed.D., Evaluator, ***New Model Me,*** and Chairman, Department of Curriculum and Foundations, College of Education, Cleveland State University, University Tower 1448, Cleveland, Ohio 44115. Phone: (216) 687-4577.
Purpose: To assess treatment effects on students in three high schools in widely separated geographical areas.
Subjects: Approximately 150 high school students in social studies classes.
Methods: Two tests were administered to experimental and comparison groups created in each school. The Knowledge Exam is a criterion referenced assessment of key concepts and principles taught by ***New Model Me.*** The Personal Attitude Survey is a project created assessment of students' attitudes toward themselves, their peers, teachers, and parents. Equivalence tests using analysis of covariance showed the groups were not equivalent. The test of significant differences between E and C was made on adjusted scores using analysis of covariance. The groups were equivalent in regard to the Knowledge Exam. Analysis of variance was used to test whether significant differences existed between the groups on posttest scores.
Findings: There were no discernible attitude or behavior effects. Knowledge of personal behavior was significant at the .01 level in two of three schools in favor of the experimental group.
Duration: September 1977-June 1978.
Cooperating group(s): (1) Corsicana, Texas Public Schools. (2) Clayton, North Carolina Public Schools. (3) Wichita, Kansas Public Schools. (4) State Facilitators in National Diffusion Network (Texas, North Carolina, Kansas).
Publications: Information is available from Project Office, 1470 Warren Road, Lakewood, Ohio 44107.

42-OA-2 FIELD BASED SPECIAL TEACHER EDUCATION PROGRAM

Investigator(s): Richard E. Shores, Ed.D., Professor of Special Education; Joseph J. Stowitschek, Ed.D.; and Charles L. Salzberg, Ed.D., Investigators; and Mary Margaret Kerr, Coordinator, Programs for Special Educators, George Peabody College for Teachers, Box 328, Nashville, Tennessee 37203. Phone: (615) 327-8121.
Purpose: To determine the use and effects on child performance of specific teaching skills that are trained in this program.
Subjects: Approximately 50 Master's level graduate students to date, ages 21 to 37, enrolled in the Peabody Special Education Program.
Methods: The subjects are evaluated daily on their use of specifically identified teaching competencies. Selection of competencies to be trained is made on three bases: information from former graduate students who are teaching in special education settings; information from empirical research studies; and ongoing data from this training program. Trainees enroll in three core procedures courses during the 1st semester. Assignments from the courses are carried out on three levels: didactic instruction and written assignments; simulated activities; and actual use in a classroom for handicapped children or adults. Close supervision is provided through a staff of doctoral level graduate students who serve as field work supervisors. Trainees must demonstrate improved

pupil performance, reliable data collection procedures, and a predetermined teaching strategy for individual teaching programs. Trainees record data on pupil performance each day, which is analyzed by computer at the end of each semester of field work. Competencies are evaluated as to their use and effectiveness in improving child performance. Revisions of the competencies trained can be made then based on continuous data supplied by trainees.

Findings: Trainees have indicated mastery of at least 76% of all subobjectives (lessons) taught to handicapped children. Children (N = 900) of all handicapping conditions have been taught. Trainees have demonstrated use of all competencies included in their training program.

Duration: June 1975-June 1981.

Cooperating group(s): Personnel Preparation Division; Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

Publications: Kerr, M.M. and Gable, R.A. Field based programming in teacher education. ***National Society for Performance and Instruction Journal,*** June 1977.

42-OA-3 THE EFFECTIVENESS OF FORMAL PREKINDERGARTEN EXPERIENCE: WHICH ASPECTS ENDURE? WHICH PROGRAMS/MODELS? HOW LONG? HOW?

Investigator(s): Michael H. Kean, Ph.D., Executive Director; Thomas C. McNamara, Ed.D., Manager; and Kenneth Prusso, Ed.D.; Judith Goodwin, M.S.Ed.; and Herman Carter, M.S.Ed., Research Associates, Early Childhood Evaluation Unit, Office of Research and Evaluation, School District of Philadelphia, 21st and the Parkway, Philadelphia, Pennsylvania 19103. Phone: (215) 299-7758.

Purpose: To provide cumulatively, over many cohorts in a large eastern city, evidence of which prekindergarten programs operating under school district auspices have what specific kinds of benefits with what degree of endurance; and to develop a computerized longitudinal file system, on total populations of interest, containing major context and outcome variables.

Subjects: Approximately 3,000 children annually, ages 4.7 to 5.7, equally divided by sex, who enter kindergarten in Philadelphia public schools after completing either a Title XX Day Care Program, a prekindergarten Head Start (Planned Variation) Program, a City Department of Public Welfare funded Child Care Program, or a School District initiated Parent Cooperative Nursery Program.

Methods: At the prekindergarten level, computer file (Prekindergarten File (PKF) system) information on each child in each of the prekindergarten programs includes (1) program/model exposure (in months); (2) yearly absence rates; (3) six stanine scores reflecting developmental status in the areas of gross motor performance, fine motor, social, cognitive, and language development, and self-help from the locally developed Developmental Behavior Checklist; and (4) each child can also be grouped under SES characteristics derived from census information by block and tract. As each child on the PKF enters kindergarten, s/he is automatically included in the computerized Early Childhood File system which is used to track each child from grades K-12. Major tracking elements include (1) type of prekindergarten experience and developmental status on entering K; (2) type of yearly school experience, with length of exposure indicator; (3) yearly absence rates; (4) annual scores on city-wide tests; and (5) each child can also be grouped by SES characteristics as based on census information. Analysis, which includes multiple regression, essentially focuses on school achievement as a function of type of prekindergarten experience encountered and type of school experience, dimensioned by exposure and absence considerations. The Stanford Early School Achievement Test will be administered to kindergarten groups, and the California Achievement Test to children in grades 1 through 12. Two observation instruments, the Prekindergarten Observation Form at the prekindergarten level and the Classroom Observation Routine at grades K-3, have been used extensively during the project's operation. Factor analysis has identified some initial factors with stability. These are checked continually and eventually will be included in the multiple regression analyses as factor scores associated with type of program. Information on other major early childhood program components (i.e., parent involvement, staff development, and special supportive health and social services) is being collected. Data from these areas are analyzed

in isolation from the main tracking study outlined above, but future plans call for identifying variables from these components likely to influence the major tracking study elements.

Findings: Through 1976-1977 children with prekindergarten experience (regardless of type) in three cohorts tracked K-2 have consistently higher percentages of children scoring above national norms than children without this experience. The Get Set Day Care Program appears to be particularly effective through grade 2.

Duration: October 1976-continuing.

Cooperating group(s): Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-OA-4 RECORDKEEPING IN PRIMARY SCHOOLS

Investigator(s): Philip S. Clift, M.Ed., Principal Research Officer; E.L. Wilson, B.Ed., Research Officer; and G.G. Weiner, M.A., Assistant Research Officer, National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.

Purpose: To investigate the current state of recordkeeping in primary schools in England and Wales; and to develop and evaluate more systematic and comprehensive school records.

Subjects: Approximately 600 primary schools; and six groups located in different parts of England and Wales composed of teachers from approximately 12 schools.

Methods: Survey research was conducted by visits, interviews, and questionnaires in the 600 sample primary schools. The evaluative assessment of recordkeeping was carried out by regular group meetings with the six groups of teachers and by between-meeting assignments.

Findings: School records are haphazard and unsystematic. Assessments for the most part are subjective and ambiguous. The most systematic and comprehensive records seem to result from within-school democratic staff-participation in their creation.

Duration: September 1976-August 1978.

Cooperating group(s): Schools Council.

42-OA-5 CONTINUITY OF CHILDREN'S EXPERIENCE IN THE YEARS 3 TO 8

Investigator(s): Philip S. Clift, M.Ed., Principal Research Officer; M. Smith, B.Sc., Senior Research Officer; Shirley Cleave, B.A., Research Officer; and J. Holmes, B.A., Assistant Research Officer, National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.

Purpose: To provide a detailed description of children's experiences in all forms of preschool education and care and in the infant school; to illuminate features of continuity or discontinuity between these various stages; and to provide a picture of the individual experiences of a small group of children transferring from various preschools to the infant school.

Subjects: Cross-sectional study: Selected randomly: approximately 72 infant first school classes, 32 nursery schools and classes, 48 playgroups, 24 day nurseries, and 32 child minder homes. Longitudinal study: Approximately 40 children, ages 4.0 to 5.6 attending a variety of preschools; and approximately 8 children, ages 4.0 to 5.6, who have not attended preschool.

Methods: The project is divided into a cross-sectional study and a longitudinal study. The cross-sectional study will be a broadly based descriptive examination using a series of structured observation instruments in conjunction with a structured interview schedule and equipment and facility checklists. The longitudinal study will make further and more detailed use of structured observation, following individual children for considerable periods of time both in their preschool and in their infant school. Interviews will be held with the adults most closely connected with the child. The project is linked to the Schools Council Development Project (Transition and Continuity in Early Education) and to the National Foundation for Educational Research Project (Transition from Home to Preschool).

Duration: April 1977-August 1980.
Cooperating group(s): Department of Education and Science.

42-OA-6 TRANSITION AND CONTINUITY IN EARLY EDUCATION

Investigator(s): Philip S. Clift, M.Ed., Principal Research Officer; Margaret Bate, Froebel Teacher's Certificate, Research Officer; and Mary Hargreaves, B.Sc., Assistant Research Officer, National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.
Purpose: To develop and evaluate the activities of locally based liaison groups composed of the staffs of neighborhood infant schools and their contributory preschool institutions as a means of harmonizing their practices, attitudes, and curricula.
Subjects: Children, ages 3 to 8, in various preschool provisions, child minder homes, day nurseries, playgroups, nursery schools, and in infant and first schools.
Methods: A number of liaison groups will be set up in several areas. Each group will be centered in a neighborhood infant school and will include the teachers of that school and the staffs of contributory nursery school/classes, day nurseries, preschool playgroups, and child minder homes. These groups will meet at regular intervals over a period of a year, and prepared resource materials will be used to stimulate discussion about ways of harmonizing children's educational experiences. Videotapes made in other areas showing children's activities and experiences in a variety of settings will form the major part of these resource materials. It is intended that, where appropriate, existing practices should be modified and coordinated to provide a smooth transition for children from preschool provision to the infant school. Further videotapes will be made of a sample of children whose experiences are being followed before and after transition. The resource materials will be evaluated in terms of their usefulness in encouraging discussion and promoting changes in aims, attitudes, and curriculum within the liaison groups. Liaison groups also will be evaluated on their usefulness to harmonize children's educational experience and to coordinate the educational services provided by the various settings. A modification of Kelly's Repertory Grid will be used to gauge the liaison group members' perceptions of various educational experiences.
Duration: April 1978-August 1980.
Cooperating group(s): Schools Council.

42-OA-7 OPEN PLAN SCHOOLS: AN INQUIRY

Investigator(s): S.N. Bennett, Ph.D., Senior Lecturer, Department of Educational Research, University of Lancaster, Lancaster, England LA1 4YL.
Purpose: To survey attitudes, teaching practices, and pupil behavior in Open Plan Elementary schools in England and Wales.
Subjects: Group I: 552 pupils, ages 6 to 9, equal numbers of both sexes. Group II: 138 pupils, ages 6 to 9, equal numbers of both sexes.
Methods: A national random questionnaire survey was conducted of head and class teachers. Observational studies were conducted of the children in 23 schools varying in architectural design and teaching design. Group I: 24 pupils per school were observed over 4 days in each school. A pupil behavior schedule was used that classified behavior in a number of areas (e.g., use of space, allocated curriculum activity, pupil involvement, preparation and transitional activities, and pupil-pupil and pupil-teacher interaction). Group II: A separate sample of six pupils per school was followed through the day using the learning experiences schedule which, like the pupil behavior schedule, was designed for the study. At each minute, a tally was made related to: physical space, gross curriculum context, actual curriculum activity, actual pupil activity, teaching/learning situation, materials used, posture, pupil grouping, and adult contact and presence. Additionally, an extra week (3 weeks altogether) was spent in each school to record pupil and teacher use of space.

This schedule required a scaled drawing of the teaching unit on which all spaces were noted. Each space was visited every 20 minutes and the numbers of pupils and teachers using the spaces and their activities were recorded.

Findings: Curriculum allocation, pupil involvement, and use of space are ascertained for each school and related to teaching organization, degree of pupil choice in the curriculum, design of unit, etc.

Duration: 1975-1978.

Cooperating group(s): Schools Council.

42-OA-8 EVALUATION OF ASPECTS OF EDUCATIONAL PROGRESS IN SELECTIVE/ NONSELECTIVE SECONDARY SCHOOLS

Investigator(s): Jane Steedman, B.A., Research Officer, National Children's Bureau, 8 Wakley Street, London, England EC1V 7QE. Phone: 01-278-9441.

Purpose: To identify the nature of the secondary schooling of a group of children whose experiences were influenced by change from the selective school system to comprehensive schooling; and to determine whether aspects of their performance and views at age 16 were related to their schooling.

Subjects: A cohort of 16,000 youths in Great Britain born in one week of 1953. Data were collected when cohort members were ages 11 and 16 (1969 and 1974). The subjects are currently 21 years old and are representative of national distributions in sex, social class, etc.

Methods: The investigator is using data from the National Child Development Study, in which information was collected on a nationally representative group of subjects at birth and at ages 7, 11, and 16 on home and medical background, schooling, and test performance. A group of 3,000 to 4,000 children was identified as having been schooled in England between ages 11 and 16 in a single school; i.e., in a comprehensive; a grammar, selective school; or a secondary, modern school. Subjects receiving such schooling will be categorized as indicative of the types who went to each kind of school at age 11 and at the start of secondary schooling. Using analysis of covariance (to control, in exploring what may be outcomes of secondary schooling at age 16, and for what social class, test performance, etc. were at age 11), the project will explore the type of school in relation to such factors as math and reading scores, self-ratings in school subjects, proposed school leaving age, job aspirations, etc. In addition, the investigator is coordinating the collection of public exam results for members of the National Child Development Study. These results are to be related to existing findings on test performance, etc. of the subjects in the study reported here. This project will be completed in Winter 1979.

Duration: April 1977-February 1979.

Cooperating group(s): Department of Education and Science, England.

42-OA-9 PILOT STUDY ON THE IMPACT OF MAINSTREAMING ON CHILDREN

Investigator(s): Ronnie Gordon, M.S., Project Director and Associate Professor of Clinical Rehabilitation Medicine; Barbara Schwartz, M.S., Project Coordinator; and Ora Ezrachi, M.S., Data Analyst, Preschool and Infant Development Programs, Institute of Rehabilitation Medicine, New York University Medical Center, 400 East 34th Street, New York, New York 10016. Phone: (212) 679-3200, Ext. 3219.

Purpose: To develop instruments to study the impact of mainstreaming on children's interactions with peers, teachers, and educational materials.

Subjects: Year I: 40 preschool children (24 nonhandicapped and 16 physically handicapped), ages 2 years 10 months to 6 years. Year II: 63 preschool children (50 nonhandicapped and 13 physically handicapped) ages 2 years 9 months to 5 years 5 months. In Year II, four groups were delineated for intensive study: (1) six physically handicapped children mainstreamed into normal

classrooms, (2) seven physically handicapped children in a special setting, (3) 10 normal children in integrated mainstreamed classrooms who were matched to handicapped children in integrated settings, and (4) 10 normal children in classrooms without physically handicapped children.

Methods: During Year I, 12 detailed comprehensive 5-minute observations were tape recorded on each child. Using these records, a coding system was developed with four relevant parameters that were selected because they reflected the investigators' developmental interaction philosophy: (1) Source – impetus for child's actions, (2) Direction – focus of behavior, (3) Mode – modality used in interaction, and (4) Quality – intensity and nature of involvement with people and with educational materials. Sets of four observations were coded simultaneously by three coders utilizing appropriate subcategories within each of the four parameters. Categories with low intercoder agreement (initially below 60%) were refined. In Year II, data collection was divided into two 3-month periods, during which three observers collected six observational records on each child in the study. Following each data collection period, observations for each child were coded. Data used for analysis of the four subgroups were based on the proportion of behaviors in each subcategory.

Findings: The results indicated that the coding system (as developed and used for this study) was valid in that 74% of the 78 significant differences between groups were differences between the handicapped and the nonhandicapped populations of children. The dimension of Quality, specifically two subcategories (Social Intensity and Use of Materials), were the best descriptors of the distinctive patterns of the functioning of each group.

Duration: 1976-completed.

Cooperating group(s): Administration for Children, Youth and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-OA-10 PILOT STUDY ON THE IMPACT OF MAINSTREAMING ON PARENTS

Investigator(s): Ronnie Gordon, M.S., Project Director and Associate Professor of Clinical Rehabilitation Medicine; Barbara Schwartz, M.S., Project Coordinator; and Ora Ezrachi, M.S., Data Analyst, Preschool and Infant Development Programs, Institute of Rehabilitation Medicine, New York University Medical Center, 400 East 34th Street, New York, New York 10016. Phone: (212) 679-3200, Ext. 3219.

Purpose: To determine attitudes toward and expectations for mainstreaming of parents of handicapped and nonhandicapped children; and to evaluate the value of data derived from questionnaires as opposed to taped semistructured interviews.

Subjects: Year I: 11 parents of handicapped children and 21 parents of nonhandicapped children. Year II: 11 parents of handicapped children and 40 parents of nonhandicapped children. (See Abstract 42-OA-9 for sample of children.)

Methods: Generalized attitudes toward the handicapped were assessed using the Attitude Toward Disabled Persons Questionnaire (ATDP) developed by Yucker, Block, and Young. A 47-item Likert scale was developed and used to assess attitudes and expectations related to preschool education in general and specific attitudes toward mainstreaming. A semistructured tape recorded interview extended the scope of the two questionnaires. It focused on attitudes, expectations, and concerns related to mainstreaming.

Findings: Generalized attitudes toward the handicapped were favorable, but while parents were accepting the concept of mainstreaming (Year I: Normal – 81%, Handicapped – 43%; Year II: Normal – 61%, Handicapped – 50%), there were many reservations cited. The interviews revealed more qualifiers and conditional statements than were indicated in the questionnaires alone. Parents were concerned about the degree of the handicapping conditions of the children to be integrated. There was greater concern expressed related to the integration of mentally retarded or emotionally disturbed children than to the integration of physically handicapped children. Adequate staff ratio was an often-stated consideration, especially for the parents of handicapped children in specialized settings, half of whom preferred this type of setting to an integrated setting.

Duration: 1976-completed.
Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-OA-11 PILOT STUDY ON THE IMPACT OF MAINSTREAMING ON STAFF

Investigator(s): Ronnie Gordon, M.S., Project Director and Associate Professor of Clinical Rehabilitation Medicine; Barbara Schwartz, M.S., Project Coordinator; and Ora Ezrachi, M. S., Data Analyst, Preschool and Infant Development Programs, Institute of Rehabilitation Medicine, New York University Medical Center, 400 East 34th Street, New York, New York 10016. Phone: (212) 679-3200, Ext. 3219.
Purpose: To assess the reactions and needs of the educational staff with respect to the handicapped children and to the implementation of mainstreaming.
Subjects: Year I: 15 staff members were interviewed across all settings. Year II: an additional 12 staff members participated in the study. (See Abstracts 42-OA-9 and 42-OA-10 for samples of children and parents.)
Methods: The primary source of data was a semistructured interview. This was supplemented by questionnaires focusing on (1) general attitudes toward the handicapped using the Attitude Toward Disabled Persons Questionnaire, and (2) a developed Needs Assessment document.
Findings: Interview data from educational staff in all settings indicated that integration should be attempted ***where possible,*** with personnel in specialized settings expressing greater reservations. There was a strong emphasis on the need for supportive services: special educators, therapists, and in particular, adequate counseling services for the parents of handicapped children.
Duration: 1976-completed.
Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-OA-12 SCHOOL CAN WAIT: THE NATURAL CHILD'S FIRST 8 YEARS

Investigator(s): Raymond S. Moore, Ed.D., President, Hewitt Research Foundation, 553 Tudor Road, Berrien Springs, Michigan 49103. Phone: (616) 471-2211; Martha Lorenz, Ph.D., Professor, Department of Home Economics, Andrews University, Berrien Springs, Michigan 49103; David Metcalf, M.D., Psychiatrist, School of Medicine, University of Colorado, Denver, Colorado 80220; and T. Joseph Willey, Ph.D., Neurophysiologist, School of Medicine, Loma Linda University, Loma Linda, California 92354.
Purpose: To determine the optimum age for school entry, the viability of early schooling vs. home care, and the best kind of care or schooling at a given early age.
Methods: The studies included (1) a public policy study at Stanford University, (2) a neurophysiology study at the University of Colorado Medical School, (3) a National Elementary School Study (U.S. Department of Health, Education, and Welfare), and (4) 7,000+ early childhood education studies. These studies have been reported to Educational Resources Information Center/Early Childhood Education (ERIC/ECE). This is the first time they have been analyzed and put together in published form by a recognized press (see Publications below). They are not being reported formally as separate research studies here but have been correlated and presented as a whole.
Findings: Whenever possible, children are better off remaining in the home until ages 8 to 10 and then entering school with their agemates. They catch up quickly and usually excel academically, socially, and behaviorally.
Duration: January 1970-February 1979.
Cooperating group(s): (1) Office of Economic Opportunity. (2) Community Services Administration; U.S. Department of Health, Education, and Welfare. (3) National Institutes of Health; Public

Health Service; U.S. Department of Health, Education, and Welfare. (4) National Center for Educational Statistics. (5) Stanford University. (6) Michigan State University.
Publications: Moore, Raymond S. ***et al. School can wait.*** Provo, Utah: Brigham Young University Press, 1979.

42-OA-13 MAINSTREAM INSERVICE PROJECT

Investigator(s): William K. Friedel, M.S., Coordinator, Training and Recruitment Programs, New Jersey State Department of Education, 225 West State Street, P.O. Box 2019, Trenton, New Jersey 08625. Phone: (609) 292-4660; Elaine Fisher, Ed.D., Kean College, New Jersey; Myrna Merron, Ed.D., Seton Hall University, New Jersey; Barbara Nadler, Ed.D., Rutgers University, New Jersey; Gerald Melnick, Ph.D., Bloomfield College, New Jersey.
Purpose: To determine the effect of planning inservice programs for regular educators on the effective mainstreaming of handicapped children into regular classes.
Subjects: 50 school districts in New Jersey and their classified youngsters; and 50 people designated as inservice coordinators.
Methods: The New Jersey Department of Education is sponsoring an inservice project that is designed to facilitate the integration of handicapped children into the least restrictive environment. Representatives of local educational agencies are involved in a series of ongoing planning and development activities designed to facilitate the development of local inservice programs that focus on mainstreaming. Consultants from New Jersey colleges/universities assist in this process via monthly seminar meetings and ongoing contacts. Instruments being used currently are informal or in developmental stages. Planning ability is measured by a form of rating scale. Participants' (inservice coordinators) attitudes toward seminars are recorded on a postmeeting reaction form. Mainstream figures are being analyzed from district figures. Needs assessments are being conducted in each district.
Duration: September 1977-June 1980.
Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-OB-1 EVALUATION OF EXPERIENTIAL LEARNING PROJECT

Investigator(s): Diane Hedin, Ph.D. Candidate and Assistant Director, Center for Youth Development and Research, University of Minnesota, 48 McNeal Hall, St. Paul, Minnesota 55108. Phone: (612) 376-7624; and Dan Conrad, Ph.D. Candidate and Chairman, Social Studies Department, Eisenhower High School, Hopkins, Minnesota 55343.
Purpose: To discover ways to measure the impact on participating students of experiential or action learning programs; and to collect data on the most important outcomes of the programs.
Subjects: Approximately 5,000 secondary school students in 25 action learning or experiential learning programs across the country.
Methods: Criteria for school based programs include (1) The experiential program is an integral part of the school program; i.e., the experience is arranged as part of the student's school day, there is some formal commitment of school resources to the program, and the activity is ordinarily credited. (2) The experiential dimension involves real tasks. (3) The primary thrust of the program should be on off-campus, community activities. (4) The student should be engaged in new roles in the school and community. (5) The student is usually not paid for his/her experience. (6) The experience is one in which the emphasis is placed upon the student working with other people vs. self-centered activities. The 20 project schools were chosen according to these criteria, along with further considerations that each program was at least 3 years old, had a reputation for excellence, and a director who was interested in evaluation. The project as a whole should represent some balance in geography, type of school, type of community, and student population. The unique

feature of the evaluation of the project is that rather than professional evaluators, practitioners run the programs and work directly with the students to guide and implement the research design. The methods employed (1) focused the evaluative efforts on the significant issues raised by experiential education rather than on those that are easiest to measure, (2) used methods consistent with its practice, and (3) examined only outcomes of experiential learning which its proponents and practitioners claim and believe are its unique contribution. Multiple measures will be used including standardized instruments on self-concept, responsibility, and career development. Qualitative measures (e.g., participant observation and analysis of student journals) will also be used.
Duration: Summer 1977-Summer 1979.
Cooperating group(s): (1) National Association of Secondary School Principals. (2) National Association of Independent Schools. (3) National Catholic Education Association. (4) Commission on Educational Issues. (5) Rockefeller Foundation. (6) Spencer Foundation. (7) General Mills Foundation.

42-OB-2 COMPARISON OF UNSTRUCTURED AND STRUCTURED PLAY MEDIA TECHNIQUES IN COUNSELING GROUPS OF ELEMENTARY SCHOOL CHILDREN

Investigator(s): Henry L. Janzen, Ph.D., Associate Professor, Department of Educational Psychology, University of Alberta, Edmonton, Alberta, Canada T6G 2G5.
Purpose: To investigate and compare the effects of unstructured and structured play media techniques upon elementary school children's level of anxiety, self-concept, and locus of control; to determine whether the use of structured techniques, as introduced and directed by the counselor, will be significantly more effective with the children than employing unstructured techniques consisting of free choice play experiences; and to determine the appropriateness of various play therapy and play media techniques to the age, needs, and development of individual children.
Subjects: 15 second graders, ages 7 to 8.
Methods: Subjects will be assigned to one of three treatment groups: unstructured play media, structured play media, and control. The groups will be conducted once a week for 1 hour for 10 weeks. Individually administered pre- and posttest instruments will be the Coopersmith Self-Esteem Inventory, the Children's Manifest Anxiety Scale, and the Locus of Control Scale for Children. During both pre- and posttest weeks, the subject's teachers will record his/her behavior on the Coopersmith Behavior Rating Form. Data will be subjected to analysis of covariance, F test, and the Scheffe statistical method.
Duration: April 1978-March 1979.
Cooperating group(s): University of Alberta General Research Fund.
Publications: A list of publications is available from the investigator.

42-OE-1 TRANSITION FROM HOME TO PRESCHOOL

Investigator(s): Peter Blatchford, B.Sc., National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.
Purpose: To seek a fuller conceptual and empirical grasp of the transition from home to preschool by exploring a number of related issues including: the age of entry into preschool, a comparison of home and preschool environments, and effects of home background on children's behavior in preschool.
Subjects: Children, age 2½; preschool staff; and parents from several areas in England.
Methods: The study is being conducted in two stages. In the first stage, in order to obtain a comprehensive view of transition at this age level, semistructured interviews will be conducted with staffs from nursery schools and classes, playgroups, day nurseries, and with child minders and parents. A random sample of these settings will be chosen from several areas in England including urban and inner city areas. In the second stage, in-depth, short-term, longitudinal studies will be

conducted on a small group of children. Detailed observational data will be collected on the children's behavior in their home setting prior to entering the nursery, and then on the child's first 6 weeks in the nursery. This will be augmented by data from teachers' reports, interviews with parents, and observations of the child's behavior at later points in time.
Duration: April 1978-September 1980.

42-OF-1 EARLY INTELLECTIVE TRAINING AND SUBSEQUENT SCHOOL PERFORMANCE (EITSP): THE HARLEM STUDY AND FOLLOW-UP

Investigator(s): Francis H. Palmer, Ph.D., Professor; and Ronald J. Siegel, M.A., Ph.D. Candidate, Department of Psychology, State University of New York, Stony Brook, New York 11794. Phone: (516) 751-8278.
Purpose: To determine the effects of early (preschool) intellective training on subsequent school performance.
Subjects: 315 Black boys, all born in Harlem in 1964, both middle and lower SES (123 subjects trained at age 2; 124 subjects trained at age 3; and 68 controls). Subjects were followed up when they were between ages 10 through 12.
Methods: Instructional sessions, based in a center away from home, were held for two 45-minute periods a week over 8 months. The curriculum was designed to teach simple concepts (such as ***into, up,*** and ***many***) that were assumed to be prerequisite to comprehending and describing various objects, events, and relationships in the world. Several significant assumptions were made concerning the conditions that provide the optimal context for learning: (1) children must organize information in order to make an appropriate response; (2) the tutorial should develop positive affect toward learning, and that warm interaction with an adult during learning facilitates positive affect; and (3) children should begin at their own level of development and proceed at their own pace. A one-to-one teacher-child ratio offered the context within which each of these conditions could be met. Instructors were rotated after six sessions, so that exposure to several adults would facilitate the child's relationships with other adults in subsequent school settings. The prepositions and adjectives in the curriculum were organized by difficulty and meaningfulness and were taught through play activities with items that the child would be likely to encounter again at home. To separate various aspects of program experience, the authors compared the performances of three groups — a Concept Training Group, a Discovery Group, and a control group. The Discovery Group did not receive structured concept training but interacted with adults in the same setting for the same period of time as the Concept Training Group. A follow-up study has been made recently on these subjects at ages 10 to 12. Measures used during this longitudinal study (1966-present) include: Stanford-Binet Intelligence Test (Form L-M); Wechsler Preschool and Primary Scale of Intelligence; Peabody Picture Vocabulary Test; Wechsler Intelligence Scale for Children; Wechsler Intelligence Scale for Children (Revised); Metropolitan Achievement Test (reading, arithmetic); and Stanford Achievement Test.
Findings: The results of the program evaluation concerned the effects of age of training (2 and 3 years) and particular program experience on cognitive and perceptual performance. Concept training appeared to be as beneficial at 2 years as at 3 years of age, and positive benefits were still apparent at age 4. Follow-up at ages 10 to 12 show that experimental subjects are far less likely to be retained in grade than their controls, have significantly higher Wechsler IQ's and arithmetic and reading achievement test scores, and are ahead of their controls in reading achievement.
Duration: 1966-1981.
Cooperating group(s): (1) National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Education Commission of the States. (3) Administration for Children, Youth and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

Publications: Palmer, F.H. and Siegel, R.J. Minimal intervention at ages two and three and subsequent intellective changes. In M.C. Day and R.K. Parker (Eds.), ***The preschool in action*** (2nd Ed.). Boston: Allyn and Bacon, 1971.

42-OF-2 PARENTAL CORRELATES OF ACADEMIC ACHIEVEMENT

Investigator(s): Rachel Seginer, Ph.D., Lecturer, Department of Psychology, University of Haifa, Haifa, Israel.

Purpose: To compare verbally expressed expectations and practices of parents of high achievers vs. parents of low achievers.

Subjects: 120 Israeli boys in grade 5 and their mothers. Control group: The target population is composed of lower class families; however, for purposes of control, middle class families were included in the design.

Methods: Parental expectations and practices as reported by mothers and by their preadolescent boys were assessed by precoded interview of the mother and a questionnaire to the child. Evaluations of practices and expectations included (1) parental involvement in the child's school and educational activities, (2) parental discriminant reinforcement of school appropriate behavior and achievement, and (3) parents as models for learning and education. The hypothesis is that the two groups will differ least on parental expectations and most on parental practices as reported by the child.

Duration: September 1978-August 1979.

Cooperating group(s): Ministry of Education, Israel.

42-OF-3 PROFICIENCY TESTING USING STANDARDIZED NORM REFERENCED TESTS

Investigator(s): Gary L. Brager, Ph.D., Specialist in Research; James F. Skarbek, Ph.D., Coordinator of Reading Services; and Gerald Masemore, M.A., Systems Analyst, Data Processing, Baltimore County Public Schools, 6901 North Charles Street, Towson, Maryland 21204. Phone: (301) 494-4090.

Purpose: To determine if a standardized norm referenced achievement test could also be used as a criterion type proficiency test to meet a state mandated assessment program.

Subjects: A representative sample of schools (one from each of the country's five administrative areas); a subcohort of 2,250 elementary and 5,000 secondary students (half boys, half girls) from each of the schools in grades 3 (elementary) and grades 7 and 9 (junior and senior high).

Methods: The Iowa Test of Basic Skills is administered annually to all students in grades 3, 5, 7, and 9, except students in certain classes of special education. About 95% of an average enrollment of 9,000 pupils per grade is tested. In addition to the Iowa Test, the State also requires an assessment of reading proficiency at grades 3, 7, and 9. The proficiency is according to State reading levels for minimal performance. To comply with the proficiency requirements, yet introduce no additional testing, the investigators used the Iowa Reading Test in the following way: A set of 20 items was selected which by content validation measured the State's reading goals and by readability formulas were at the desired minimum levels of performance. When a pupil takes the Iowa Test for State accountability, he is also taking the proficiency test for minimal reading levels. The 20 items are scored separately and the percent correct is compared to a cut-off score. The cut-off score was set at 80% of the normative average on the 20 items. That is, on the 20 items the Iowa norm group averaged, say, 14 correct. Then cut-off score is set at 11 items correct. Schools receive name lists, but are not told which items were used. They are told which skills are involved. Construct validity of the name list is being established presently by using teacher judgment, basal reading levels, and criterion tests.

Findings: The process appears to identify correctly 90% to 95% of the pupils not meeting state minimum levels, with no additional testing time required of pupils.

Duration: June 1976-August 1979.

42-OG-1 **A LONGITUDINAL STUDY OF THE IMPACT OF OPEN AND TRADITIONAL CLASSROOMS ON THE ACQUISITION OF CLASSROOM COPING SKILLS BY YOUNG CHILDREN FROM DIFFERENT SOCIAL AND ETHNIC BACKGROUNDS**

Investigator(s): Ida Santos Stewart, Ph.D., Associate Professor and Chairperson, Department of Curriculum and Instruction; and Margaret D. LeCompte, Assistant Professor, Foundations of Education, University of Houston, Houston, Texas 77004. Phone: (713) 749-3632.
Purpose: To study the school as a socializing institution and its impact on kindergarten children's acquisition of both work-related beliefs and behavior patterns that facilitate success in school and preparation for adult roles; and specifically, to investigate those aspects of schooling that stress disciplined behavior, impulse control, task orientation, conformity to authority, time schedules, and achievement.
Subjects: 600 children selected randomly from two school districts in Texas and followed through their kindergarten and 1st grade year beginning in Fall 1978.
Methods: The children will be interviewed through their kindergarten and first grade years. They will be interviewed three times each year: before, in the middle, and at the end of each school year. Data will be collected on the type of classroom interaction experienced, children's descriptions of school norms and values, as well as pupils' social background. A pilot study was completed with 100 subjects, and an interview guide was developed and tested. A relatively unstructured interview format using photographs will be used as stimuli to assist responses. The interviews will be tape recorded. Coding categories were established primarily by induction and a code book was developed. Analysis of the data will utilize chi-square and ANOVA techniques.
Duration: Summer 1978-Summer 1980.
Cooperating group(s): Hogg Foundation for Mental Health.

42-OH-1 **PROFESSIONAL INTERESTS AND APTITUDE**

Investigator(s): Arrigo L. Angelini, Ph.D.; and Antonio Rodolpho Agatti, Ph.D., Professors, Institute of Psychology, University of São Paulo, C. Postal 11454, São Paulo, Brazil. Phone: (011) 211-2965.
Purpose: To study the relation between aptitude, socioeconomic status, and sex as independent variables and professional aspirations and expectations of children, age 14.
Subjects: 220 high school girls and boys, age 14, on four levels of aptitude and two socioeconomic levels.
Methods: Subjects were divided into four groups according to scores on Raven Progressive Matrices (The 25th, 50th, and 75th percentiles were used for this purpose.) Based on a scale, which takes into consideration the father's occupation and education, subjects were divided into two socioeconomic levels (upper lower and upper middle). A Professional Interest Inventory was used to measure professional aspiration and the expectations of the subjects and their parents. Discrepancies between scores in these variables are being studied in their relation to aptitude, socioeconomic level, and sex.
Findings: A preliminary analysis shows a lack of realism in choices of levels of occupations by either the child or the parent.
Duration: 1974-1978.
Publications: Agatti, A.P.R. Revisão de Teorias de Escolha Ocupacional. ***Klinica*** (Revista do curso de Psicologia Clínica de Itatiba) Ano 4, n° 7, January 1977.

42-OI-1 **PERCEPTIONS AND ATTITUDES TO SCHOOL AND WORK OF LOW ACHIEVING EARLY SCHOOL LEAVERS**

Investigator(s): Dorothy Fleming, B.A., Senior Lecturer; and Susan Lavercombe, B.A. (Econ.), Research Assistant, Department of Education Studies, Sheffield City Polytechnic, 33 Collegiate Crescent, Sheffield, England S10 2BP.

Purpose: To investigate whether the degree of difficulty experienced by early school leavers in finding employment is related to their attitudes to school and work during their last terms at school; to determine whether such attitudes are influenced by differences between schools in career education; and to study changes in attitudes over 9 months after school leaving to determine whether the extent or direction of such changes are related to postschool employment/unemployment experiences.

Subjects: 209 white, fifth form, school leavers (half male, half female) from three Sheffield comprehensive schools situated in predominantly working class areas. Teachers expect them to leave school with no or very low formal qualifications and to experience average or above average difficulty in getting a job.

Methods: Volunteer pupils (N = 209) were interviewed individually for 3/4 hour during the Spring term 1978 using a specially constructed questionnaire previously piloted in another similar Sheffield school. The questionnaire attempted (1) to assess a range of attitudes of possible importance to employers, using both experimental and existing attitude scales; and (2) to gather information concerning pupil perceptions of the career education they have received. The questioning was designed carefully so that pupils less able in reading and writing were not at a disadvantage. After leaving school, the pupils were followed up via the Careers Office. Measures of the degrees of difficulty pupils are finding in getting a job include (1) the length of time from school leaving to employment, and (2) the ratio of days employed to days unemployed over the first 6 months after school leaving. In December 1978 the group was interviewed again in order to assess changes in attitude.

Duration: October 1977-September 1978.

Publications: Information is available from the investigators.

42-OJ-1 STUDY I: EVALUATION OF A PRESCHOOL, PARENT-FOCUSED, INTERVENTION PROGRAM STUDY II: PRIORITIES IN ADULT EDUCATION WITH SPECIAL REFERENCE TO EDUCATION IN PARENTING

Investigator(s): John Raven, Project Leader, Scottish Council for Research in Education, 16 Moray Place, Edinburgh 3, Scotland.

Purpose: To develop a better understanding of the processes involved in an educational home visiting program designed to encourage the parents to play a greater role in promoting the educational development of their children; to collect background data against which to assess the impact of the program on the parents' attitudes; and later, to assess the overall impact of the program.

Subjects: Study I: 150 families in the catchment areas of six nursery schools in relatively deprived areas of the city. Study II: 100 families (who had not been visited) from the same areas; 40 families from high status areas; and 40 families who had also received visits.

Methods: Study I employed illuminative evaluation designed to explicate the implicit theories of the Educational Home Visitors (EHVs) and their impact on the parents, children, schools, and communities involved. Study II involved a series of structured interviews.

Findings: Insight has been gained into the reasons why many parents do not engage in ***approved*** activities with their children. The differences between parental attitudes and childrearing behaviors in the high and low socioeconomic status areas (HSES and LSES) are striking. Whereas initially great importance was attached to such things as stimulating cognitive development by encouraging parents to talk to and reason with children, now more importance is attached to helping the mother to become more competent in the expectation that she will provide a more appropriate role model for her children. By exposing the children to a ***teacherish*** style of behavior and enabling mothers to entertain them, it is expected that children will develop a better adjustment to school. The background data raise serious questions about the ethics of parent training, which leads LSES parents to adopt the attitudes and behaviors of HSES parents. (Their values are different and the problems they have to cope with are incomparable.) The effects of the EHVs, as documented in

the attitude survey, are to transform the LSES parents' attitudes and beliefs about childrearing (but not their values, behaviors vis-a-vis their children, or their problems) into those of HSES parents. This is not mere verbal toeing-of-the-party line, since beliefs and attitudes (which no attempt was made to influence) have changed. Striking findings of the background survey were (1) the positive importance LSES parents attached to keeping their children dependent, (2) a set of civic attitudes that were inimical to the development of individualism in the schools, and (3) contrary to popular opinion, schools actually have altered the goals that LSES parents think are important and have neglected those considered important by HSES parents. It was concluded that the schools are working class – not middle class institutions. As evidence of this, HSES parents seem much more anxious to influence the schools but find that they cannot. Few parents think that schools promote the growth and development of their children. The school system appears to be hardly at all about education as much as it is about getting good jobs.
Duration: September 1976-completed.
Cooperating group(s): (1) Scottish Education Department. (2) Manpower Services Commission.

42-OJ-2 PARENTAL INVOLVEMENT IN PRIMARY SCHOOLS

Investigator(s): Philip S. Clift, M.Ed., Principal Research Officer; and R. Cyster, B.A.; J. Russell, B.A.; and S. Battle, B.A., Assistant Research Officers, National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.
Purpose: To undertake a national sample survey of the extent and variety of parental involvement in schools catering to children, ages 3 to 13.
Subjects: Headteachers in a sample of 1,800 schools catering to children, ages 3 to 13; and headteachers, teaching staff, and sample of parents at 10 schools selected for case study.
Methods: A questionnaire survey was conducted of the extent and variety of parental involvement in a nation-wide sample of schools. Parental involvement was related to the school's location, design, organization, and size. Case studies were made of parental involvement in action at 10 selected schools to assess the problems and possibilities of involving parents in their children's education.
Findings: Levels of school based parental involvement were significantly related to class and school architecture and organization for infant and junior age groups. The headteacher's outlook was crucial to parent-teacher relationships.
Duration: September 1976-August 1978.

Specific Skills

42-PA-1 EARLY MATHEMATICAL EXPERIENCES: AN EVALUATION STUDY

Investigator(s): Philip S. Clift, M.Ed., Principal Research Officer; Martin Woodhead, M.A., Research Officer; and J. Holmes, B.A., Assistant Research Officer, National Foundation for Educational Research, The Mere, Upton Park, Slough, Berkshire, England SL1 2DQ. Phone: Slough 28161.
Purpose: To carry out an independent evaluation of the Schools Council Project, Early Mathematical Experiences, through interviews relating to the historical development of the project and by means of case studies of nursery teachers using the project materials.
Subjects: A random sample of members of groups involved in the organization and development of the project; and 20 practicing nursery school teachers nominated by six LEAs working in nursery schools/classes/units who have not been involved in development of the curriculum materials.

Methods: Part I involved a postal inquiry of a sample of teachers involved in the development of the project. Part II was composed of case studies of 20 nursery teachers who had used the project materials but had not been involved in the project development. Case study data were collected through interviews, diaries, and questionnaires.
Findings: The materials provide a comprehensive and detailed summary of good practice. They contain valuable information particularly for the inexperienced and are a useful resource for all working with young children.
Duration: July 1977-July 1978.
Cooperating group(s): Schools Council.

42-PA-2 DEVELOPMENT OF CHILDREN'S CONCEPTS OF NUMBER AND NUMERATION IN THE PRIMARY GRADES

Investigator(s): Harold H. Lerch, Ed.D., Professor of Elementary and Early Childhood Education; and John A. Easley, Jr., Ph.D., Professor of Teacher Education, College of Education, University of Illinois, Urbana-Champaign, Illinois 61801. Phone: (217) 333-2560.
Purpose: To acquire information (1) about the nature and development of children's ideas of number and numeration in the primary grades utilizing a dual approach: dealing with arithmetical understandings, and dealing with cognitive development; (2) about how children of minority and nonminority groups use and do not use numbers concepts and skills; and (3) about the nature of children's difficulties with number and numeration; and to develop materials, procedures, and hypotheses.
Subjects: Over 150 children (heterogeneous in sex, minority groups, etc.) in two classrooms each of kindergarten, 1st, 2d, and 3d grades.
Methods: The project is in its 2d year. First year study activities involved using different kindergartners and 2d graders (in classrooms in two different schools) to discover (1) acquisition or nonacquisition and use or nonuse of concepts and skills of numeration and number from primarily an arithmetical or content viewpoint; and (2) children's thinking, cognitive development in a Piagetian sense, and children's reactions to mathematical tasks dealing with numeration and notation. In both aspects, data are obtained through individual interviews with children. The part of the study pertaining to arithmetical concepts, skills, and expectations utilized printed analytic inventories and structured tasks. Inventories were administered dealing with prenumeration skills (conservation of number, matching, comparing, making groups equal, ordering); communication skills (listening, speaking, reading, writing) with numeration and notation; money values; common fractions; problem solving; and operations. Some introductory, developmental, and corrective work was attempted with small groups. In the 2d aspect of the study, children were interviewed in a clinical manner and interviews were videotaped. The tapes were studied and discussed by both project members and classroom teachers. During the 1st year, most of the clinical interviews dealt with various aspects of the concepts of conservation. Second year activities continue in much the same manner with the addition of new kindergarten and 1st grade classes, and attempts are made to follow most of the children from the 1st year of the study into 1st and 3d grades. Less attention is given to children's abilities to handle tasks of conservation; more attention, to problem solving and the tasks and expectations of conventional school elementary mathematics programs.
Findings: There is some evidence to support the idea that children's abilities to conserve quantity is of less importance and less related to satisfactory performance on arithmetical tasks than other researchers suggest. Minority group children appear to have greater difficulties with specific tasks — with some evidence that difficulties are related to lack of language acquisition.
Duration: August 1977-August 1979.
Cooperating group(s): National Institute of Education; U.S. Department of Health, Education, and Welfare.

42-PB-1 **CONTINUATION OF EFFECTS OF A TECHNOLOGICALLY BASED READING SYSTEM ON A SELECTED PRESCHOOL POPULATION**

Investigator(s): Doreen R. Steg, Ph.D., Professor; Anthony D'Annunzio, Ed.D., Associate Professor; Marilyn Gootman, Ph.D., Research Associate; and Cheryl Fox, M.S., Research Specialist, Department of Human Behavior and Development, Nesbitt College; and Rosalind Schulman, Professor, College of Business and Administration, Drexel University, 33d and Market Streets, Philadelphia, Pennsylvania 19104. Phone: (215) 895-2000; and Michael H. Kean, Ph.D., Executive Director, Research and Evaluation, 403 Administration Building, Parkway and 21st Street, Philadelphia, Pennsylvania 19103; Marciene Mattleman, Ed.D., Professor, Department of Elementary Education, Temple University, Philadelphia, Pennsylvania 19122; and Robert Calfee, School of Education, Stanford University, Stanford, California 94305.

Purpose: To evaluate the long-term achievements in reading and intelligence gains of low and middle SES children who participated in a technology based instructional program, SCILS (Self-Controlled Interactive Learning Systems, which includes a talking typewriter, talking page, and voice mirror), while enrolled in the Drexel Early Childhood Center nursery and kindergarten program.

Subjects: 38 high risk, low income children in grades 1 through 6, who participated in SCILS during their enrollment at Drexel Early Childhood Center. In addition, since 1972, yearly cross-sectional studies have been done with twenty 4- and 5-year-old children.

Methods: Children who participated in the SCILS program were evaluated individually at their elementary schools. The evaluation included the administration of the Wide Range Reading Test and Arithmetic Test, Daniel Informal Reading Inventory, Spache Diagnostic Reading Scale, and the Wechsler Intelligence Scale for Children. Test results were analyzed statistically and correlated with instructional time on SCILS and with time enrolled at the Center.

Duration: June 1975-September 1978.

Cooperating group(s): Bernard van Leer Foundation.

Publications: (1) Steg, D.R. ***et al. Found: Long-term gains with early intervention through technology*** (A 7th Year Report, 1969-1976). Washington, D.C.: International Association for Children with Learning Disabilities, March 1977. (Publication is available from the Association.) (2) Steg, D.R. Cognitive development and its relationship to affective and social development. New Jersey Association for Children with Learning Disabilities, March 1977. (3) Steg, D.R. A responsive environment and non-responsive children. Conference: Careers in Education and Innovations in Learning, sponsored by the Vanguard School and the Dietrich Foundation, Valley Forge, Pennsylvania, March 1977. (4) A list of publications is available from Dr. Steg.

42-PB-2 **JIMMY: A CASE STUDY**

Investigator(s): Doreen R. Steg, Ph.D., Professor; and Cheryl Fox, M.S., Research Specialist, Department of Human Behavior and Development, Nesbitt College, Drexel University, 33d and Market Streets, Philadelphia, Pennsylvania 19104. Phone: (215) 895-2000.

Purpose: To investigate, through a case study analysis, the impact of the Self-Controlled Interactive Learning Systems (SCILS) Program on one child, classified as 2 years developmentally delayed in reading.

Subject: One boy, age 8, from an urban working class neighborhood, who was 2 years developmentally delayed in reading.

Methods: This case study traces, through anecdotal records, Jimmy's social, emotional, and cognitive growth in the SCILS Program. At the time Jimmy was enrolled in the program, standardized test results revealed that he was performing in the low normal (6- to 7-year-old) range. The case study describes Jimmy's increasing facility with both oral and written language in conjunction with increasingly independent work with the talking typewriter. Progress was followed for 5 months by means of anecdotal notes.

Findings: In March 1978, Jimmy was given the Wide Range Reading Test and scored at grade level 2.1. In slightly under 5 months, a child who was not making progress with other reading programs made a year's progress.
Duration: October 1977-March 1978.
Cooperating group(s): Drexel University, Drexel Early Childhood Center.

42-PB-3 CHILDREN'S USE OF SYLLABIC INFORMATION IN READING

Investigator(s): Leonard Katz, Ph.D., Professor, Department of Psychology, U-20 University of Connecticut, Storrs, Connecticut 06268. Phone: (203) 486-4303.
Purpose: To determine if syllabic coding is used in word recognition/identification and if differences in the use of such information exist between skilled and less skilled readers; and to determine how phonological information is used in reading.
Subjects: Approximately 70 children in grades 5 and 6 classified according to reading ability.
Methods: Three experiments were used. In each experiment syllabic information was either enhanced by dividing a word appropriately or disrupted by incorrect division. Silent reading time, naming time, and lexical decision were studied.
Findings: Syllabic coding is used in finding the meaning of a word in memory. High frequency words are more affected by syllable disruption than low frequency words. Phonological processing occurs, at least under certain conditions.
Duration: September 1977-November 1978.
Cooperating group(s): (1) Haskins Laboratories. (2) National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-PB-4 FREE RECALL IN NORMAL AND POOR READERS AS A FUNCTION OF TASK MANIPULATIONS

Investigator(s): Maria Lúcia Lopes Dallago, Ph.D., Departmento de Educação, Universidade Federal do Ceará, Fortaleza, Ceará, Brazil; and Barbara E. Moely, Ph.D., Associate Professor, Department of Psychology, Tulane University, New Orleans, Louisiana, 70118. Phone: (504) 865-4575.
Purpose: To determine if reading disabled children often have difficulties with verbal memory tasks because they experience difficulties caused by structural deficits in memory ability or because they are deficient in the use of effective strategies to aid memory.
Subjects: 45 reading disabled boys, ages 9 to 11, in grades 4, 5, or 6 in public schools; and a control group of 45 normal readers, matched on age, sex, grade level, race, and SES background.
Methods: A baseline free recall task was used to compare the groups on study behaviors shown, amount recalled, and the use of organization as a free recall strategy. Subsequently, one-third of the children in each group received an experimental trial on (1) semantic encoding: children grouped items on the basis of conceptual category during study for recall; (2) formal encoding: children grouped items by color, ignoring conceptual relations during study; and (3) free sort: children grouped items in any way that they chose in order to remember them. Items were presented as easy-to-label line drawings. Each list contained 25 items from five conceptual categories.
Findings: Poor readers recalled less items and tended to show less organization of recall than normals during baseline. On the experimental trial, recall and category organization were highest following semantic encoding, lowest with formal encoding, and showed group differences only in free sort. Here, the reading disabled failed to organize or study as effectively as normal readers. Rather than lacking the ability to recall, reading disabled children had trouble in generating spontaneously an effective grouping strategy.
Duration: October 1977-June 1978.
Cooperating group(s): Coordenação do Aperfeiçoamento de Pessoal de Nivel Superior.

42-PB-5 READING RESEARCH

Investigator(s): Doris Aaronson, Ph.D., Professor, Department of Psychology, Room 858, New York University, 4 Washington Place, New York City, New York 10003. Phone: (212) 598-7668.
Purpose: To study word-by-word time patterns in children's readings.
Subjects: 60 boys and girls, ages 9 to 11, from the New York City public schools.
Methods: Computer displays of sentences are read by children. The computer records word-by-word reading times. The profile of reading times reflects the syntactic structure when children read for immediate comprehension (e.g., newspaper-type reading). Reading times reflect the semantic structure when children must read for long-term retention of the information (e.g., textbook-type reading).
Duration: 1977-1980.
Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-PB-6 CLASSROOM STUDY OF THE TEACHING AND LEARNING OF WRITING

Investigator(s): Susan Florio, Ed.D., Assistant Professor; and Susan Wildfong, Research Assistant, Institute for Research on Teaching, 211 Erickson Hall, College of Education, Michigan State University, East Lansing, Michigan 48824. Phone: (517) 355-1855.
Purpose: To document and provide an ethnographic analysis in one 2d grade classroom of the social contexts within which the teaching and learning of writing occur.
Subjects: One teacher and her classroom of 2d grade children.
Methods: This study is the first phase of a projected 3-year research study. The field research combines the methods and perspectives of ethnography of classroom interaction, sociolinguistics, and discourse analysis. Data collected include field notes of participant observation, formal and informal interviews with teacher and students, videotapes of naturally occurring classroom activity, extensive writing samples from children, and viewing sessions/stimulated recall with teacher. During the 2d and 3d years of the study, six 2d grade classrooms will be studied both on a case-by-case basis and in combination. It is hoped that these case studies will provide an opportunity for cross-site comparisons of (1) the relations between classroom social life and participation in writing activities, (2) the relation between written products and the establishment and maintenance of the classroom community, and (3) variation in the social organization of writing tasks during the school day and in the syntactic and semantic complexity of writing within them.
Findings: On the basis of preliminary analysis of data collected in the field study of writing in a 2d grade classroom, there appear to be at least three variables in the model of school learning as proposed by Carroll (1963) that can be illuminated substantially by the ethnographic observation of classroom interaction: perseverance, aptitude, and quality of instruction.
Duration: September 1977-June 1981.
Publications: Papers are available from the Institute for Research on Teaching, Michigan State University.

42-PB-7 COGNITIVE STYLE AND VISUAL ANALYSIS OF HIGH AND LOW READERS

Investigator(s): Joan E. Gildemeister, Ph.D., Assistant Professor; and Philip Friedman, Ph.D., Associate Professor, Department of Psychoeducational Studies, School of Education, Howard University, Washington, D.C. 20059. Phone: (202) 636-6040.
Purpose: To establish relationships between academic competence, visual analytic skills, and memory for word-like material in inner city elementary age children.
Subjects: Experimental groups of children, ages 138 to 176 months, were selected from six grade 6 classes in two inner city elementary schools comprising 10 male and 10 female sixth graders

designated by classroom teachers as excelling in reading skills; and 10 male and 10 female sixth graders designated by classroom teachers as poor readers and possible retentions.

Methods: Three experimental tasks were administered individually to the children in random order after their reading level was assessed. Reading level: the Silvaroli Classroom Reading Inventory was administered according to standard instruction. A word recognition level was obtained from the word list on which children achieved 90% of the words correct. A reading score was derived by averaging the highest word recognition and comprehension instructional level attained by the child in reading prose passages. Visual analysis: A version of the Sigel Pictorial Concept Task was used to obtain concept overdiscrimination and concept overgeneralization error scores. In matching exemplars to standard, an overgeneralization error was made when pupils asserted the exemplar was a picture of the same child as the standard when the picture was of another child. An overdiscrimination error was made when the exemplar was a picture of the same child, but the pupil said it was of a different child. The Children's Embedded Figures Test (Witkin ***et al.*** 1971) was administered according to standard instruction to obtain a field dependence score. Consonant memory: One of two types of consonant strings was administered according to standard instructions to obtain a consonant memory score. Consonants were placed in either low or high position frequencies within the strings. The task required recall of five consonants after brief exposure. Four trials were given.

Findings: Data are not analyzed; however, anecdotal evidence shows that Black English forms intrude when pupils read meaningful prose aloud.

Duration: June 1978-December 1978.

Publications: Gildemeister, J. and Friedman, P. Cognitive style and visual analysis in first graders of high and low verbal ability. ***Perceptual and Motor Skills,*** 1978.

42-PB-8 EARLY DECODING AND ENCODING STRATEGIES PROJECT

Investigator(s): Miriam L. Goldberg, Ph.D., Program Coordinator; and Amy J. Hebard; and Julia B. Osborn, Research Assistants, Program in Educational Psychology; Human Learning and Cognition, Box 64, Teachers College, Columbia University, New York, New York 10027. Phone: (212) 678-3836.

Purpose: To develop a carefully constructed, psychometrically sound instrument, the Pre-Reading Assessment Inventory (PRAI), to use to evaluate kindergartners' understanding of literacy behavior, their prereading knowledge and skills, and their ability to learn to read and spell new words for which they know or are taught the necessary phoneme-grapheme correspondences.

Subjects: 135 boys and 148 girls, ages 59 to 84 months (average age, 70.2 months), with an average WPPSI vocabulary scaled score of 9.3 (S.D. = 2.8), from 18 New York City Schools (seven New York City public schools, three lower or working class day care centers, four lower class parochial schools, and four upper middle class private schools) were used to field test the prereading assessment instrument. The children represented a variety of ethnic and linguistic backgrounds, although children who had serious difficulty with the English language were eliminated.

Methods: Information was assembled from existing research on pre- and beginning reading, from a review of group and individual prereading tests, from screening test data, and from protocols of the Early Decoding and Encoding Project. The following areas were included: (1) Auditory segmentation of words, syllables, and phonemes in initial, medial, final, and all positions. (2) Auditory blending of words into phrases, syllables and phonemes into words. (3) Visual matching of a letter or set of letters when the target is present and also when it has been removed. (4) Production of letter names and sounds. (5) Recognition of sight words in isolation and in an examiner provided oral context. (6) Decoding and encoding novel words following instruction in the necessary phoneme-grapheme relationships and a brief introduction to the task requirements. (7) The understanding of behaviors and processes involved in reading. Items were written for each area and were pilot tested on 46 kindergartners. Following revisions, the test was divided into quarters and each quarter was combined with every other quarter to yield six test forms. One of the forms was

assigned randomly to each child who was tested in two half-hour sessions. Item responses were scored for accuracy of response, coded for the style of response, or for the strategy used in the erroneous response. The accuracy scoring permitted the standard statistical test analyses that have now been performed. The coding of response style, now underway, will permit an analysis of the relationship between proficiency of performance, strategy of attack, and the nature of errors.

Findings: With the exception of the two visual tasks ($\alpha = .68$ and .75, respectively for matching and memory), the knowledge and skills subtests proved to be highly reliable ($\alpha = .84$ to $\alpha = .95$). However, the understandings subtests showed considerably lower internal consistency ($\alpha = .37$ to $\alpha = .68$). Intercorrelations among subtests were moderate (only occasionally above $r = .50$), indicating that the various tasks make independent contributions to reading competence. A number of other interesting results were obtained: When children could produce a phoneme they could, on the average, segment it 75% of the time. But if they could not produce the phoneme, they could segment it only 40% of the time. Although knowledge of the phoneme facilitated segmentation, this alone was not sufficient. There was a clear order of positional difficulty in segmentation for words and syllables (initial, component, final, and medial). There was also a clear order from easiest to most difficult for units to be segmented, and for units to be blended going from word to syllable to phoneme. As a result of the observed hierarchy, cut-off scores were determined for the syllable level of each subtest, so that children scoring above that point could be expected to pass the word level and could go on to the phoneme level, thus saving administration time. The collection of achievement data in spring 1979 will permit the assessment of the predictive validity of the subtests, singly and in combination as well as of the patterns of attack yielded by the qualitative analyses. This information will be useful in constructing a shortened revised version of the PRAI.

Duration: September 1977-August 1979.

Cooperating group(s): ita Foundation.

Publications: A report will be made to the ita Foundation.

42-PB-9 LEARNING STRATEGIES IN EARLY READING

Investigator(s): Hazel Francis, Ph.D., Senior Lecturer, School of Education, University of Leeds, Leeds, England LS2 9JT.

Purpose: To investigate the strategies used by children in learning to read and undertake tasks related to reading skills; and to study particularly the reading of children from socially disadvantaged backgrounds.

Subjects: Longitudinal study: Five boys and five girls, approximately age 5, selected randomly on admission to a school in a socially disadvantaged neighborhood. Cross-sectional studies: Approximately 20 to 30 pupils from the same school and a similar number of children from a school in a more advantaged area.

Methods: In the longitudinal study, the school was visited weekly and the children's activities were monitored. Sample children were observed in their classroom activities. Their attempts to read were recorded and errors, self-corrections, and responses to assistance were analyzed. Finally, their skills were explored in spoken language, copying, writing, and in the analysis and synthesis of written English in a variety of tasks and as demonstrated in standardized tests. Tests included the EPVT, the Goodenough Draw-a-Man Test, the Schonell Graded Word Reading Test, and the Daniels and Diack Diagnostic Reading Tests. In the cross-sectional studies, hypotheses, arising out of the longitudinal study, will be tested, and the small sample study will be set in a broader frame of reference.

Duration: 1976-1979.

Publications: (1) Francis, H. Children's strategies in learning to read. ***British Journal of Educational Psychology,*** 1977, 47, 117-125. (2) A book will be published based on the research investigations.

42-PC-1 ARTS IN EDUCATION FOR HANDICAPPED CHILDREN

Investigator(s): Louise S. Appell, Ph.D., Associate Director; and Eleanor Owen, M.A., National Committee, Arts for the Handicapped, Suite 801, 1701 K Street, N.W., Washington, D.C. 20006. Phone: (202) 223-8007.

Purpose: To modify and refine an Arts in Education Curriculum Guide for the Handicapped Child; and to collect data to test the hypothesis of improved academic performance as a result of an arts-infused curriculum.

Subjects: 110 handicapped children, ages 5 through 15, enrolled in the 1st year of an art project at Clover Park, Washington School District.

Methods: Pre- and posttesting with the Peabody Individual Achievement Test (PIAT) was used to collect data on randomly selected intact classes of special education students. The classes were divided into control and experimental groups. Exposure to an arts-infused curriculum was the intervention strategy. Statistical analysis of the 1st year used ANCOVA to compare the experimental and control groups' academic gains.

Findings: Results of achievement tests (PIAT) administered in the 1st year showed that the experimental group taught with these arts methods made significantly greater improvement in their overall test scores than control group children taught without these specialized strategies.

Duration: September 1976-September 1979.

Cooperating group(s): Clover Park School District, Washington, D.C.

Publications: Information is available from Division of Innovation and Development; Bureau of Education for the Handicapped, Education Division; U.S. Department of Health, Education, and Welfare and from National Committee, Arts for the Handicapped.

42-PC-2 STANDARDIZED DEVELOPMENTAL RATINGS

Investigator(s): David Dirlam, Ph.D., Director; and Maureen Byrne, M.A., M.S., Research Associate, Educational Research and Demonstration Center; and Clark Mitchell, M.A., Assistant Professor, Department of Education, New York State University College of Arts and Science, Plattsburgh, New York 12901. Phone: (518) 564-3031.

Purpose: To standardize and validate with longitudinal samples developmental ratings of children's spontaneous art and discourse.

Subjects: 276 girls and boys, ages 4 to 14, enrolled in a demonstration school.

Methods: Biannual samples of children's spontaneous art and discourse are rated for the presence or absence of several dozen developmental features chosen on the basis of developmental theories as refined through a process of redefinition. Features are chosen on a theoretical basis and logically related to a few others to form a partition of samples, which is age and stage related and called a "developmental dimension." Each drawing or story is rated on six to twelve dimensions with one and only one feature per dimension applying to the drawing or story. Each feature is provided with an initial definition, based on Lowenfeld's theory of drawing development, Moffett's theory of discourse development, or applications of Dirlam's theory of classifiers to both areas. The definitions are refined until a team of raters can agree independently 90% of the time on the presence or absence of the given feature in children's drawings or stories. As the size of the sample of drawings or stories approaches 1,000, the organization of features into developmental stages is assessed by comparing the average ages of appearance of each pattern of features. A longitudinal study of the sequence of patterns is in its 3d year.

Findings: Six dimensions of drawings and eight of the stories have been shown to contain features that are ratable reliably and age and stage related: For drawings: composition, shape, dimensionality, distance, meaning, and design. For stories: distances between speaker, listener, or subject; logic; rhetoric; memory or cognition; word meaning; and syntactic transformations. Five stages of drawing development have been identified. The first three stages have substages: (1) forms with motile and figurative substages, (2) configurations with focal and panoramic substages, (3) adjust-

ments with figurative and configurative substages, (4) illustrations, and (5) expressions. The sample of stories is not yet large enough to provide valid stages. A handbook on standardized developmental ratings of children's drawings is available. An analogous handbook for discourse will be completed in 1 to 2 years.

Duration: 1975-continuing.

Publications: (1) Dirlam, D. Classifiers and cognitive development. In Sohan and Modgil (Eds.), ***Toward a theory of cognitive development with the Piagetian framework*** (in press). (2) Dirlam, D. ***et al. Handbook of standardized developmental ratings of children's art.*** Plattsburgh, New York: Clinton Press, 1978. (3) A paper presented at the American Educational Research Association Meeting, Toronto, Ontario, Canada, March 1978: Dirlam, D. and Byrne, M. Standardized developmental ratings.

42-PC-3 INTELLECTUAL DEVELOPMENT OF COLLEGE SCIENCE FRESHMEN

Investigator(s): Francis P. Collea, Ph.D., Professor, Science Education, California State University, Fullerton, California 92634. Phone: (714) 870-3879; and Susan Nummedal, Ph.D., Associate Professor, Department of Psychology, California State University, Long Beach, California 90840.

Purpose: To develop a course in abstract thinking for college science freshmen using Piaget's five formal thinking skills as the basic foundation of the course design.

Subjects: Approximately 200 college freshmen (30% female, 70% male), ages 17 to 20, each of whom has declared mathematics, science, or engineering as a major at California State University, Fullerton.

Methods: A team of scientists (one chemist, two geologists, two mathematicians, two physicists, one science educator, and two psychologists) spent 1 year designing a course in abstract thinking. A series of science lessons was developed by the project staff. Since the primary focus of the project was the development of abstract thinking skills of college science students, the following reasoning skills were used as the bases for the curriculum design: (1) correlation, isolation, and control of variables; (2) proportional reasoning; (3) hypothetical-deductive reasoning; and (4) combinatorial reasoning. The content of chemistry, earth science, mathematics, and physics is being used as the vehicle for the delivery of the thinking skills. During Spring semester 1978, lessons that had been developed, reviewed, and rewritten were field tested in a microteaching environment. By September 1978, the staff had developed its first preliminary version of a course in abstract thinking for college science freshmen.

Duration: July 1977-June 1980.

Cooperating group(s): National Science Foundation.

Publications: The project director and project psychologist are engaged in a variety of related research activities including (1) Proportional reasoning and information availability. A study of calculus students at California State University, Fullerton. (2) Proportional reasoning and information availability. A study of psychology majors at California State University, Long Beach. (3) Computer dialogs in abstract thinking. A study of science majors with Dr. A. Bork, Physics Department, University of California, Irvine. (4) Normative testing program in abstract thinking. A proposal submitted to the National Science Foundation.

Special Education

42-QE-1 DECISION MAKING IN SPECIAL EDUCATION (ESN-M) WITH SOME REFERENCE TO IMMIGRANT CHILDREN

Investigator(s): Sally Tomlinson, M.Soc.Sci., Lecturer, Department of Educational Research, University of Lancaster, Bailrigg, Lancaster, England. Phone: 0524-65201, Ext. 4364.

Purpose: To examine the decision making process by which children move from the normal school system into educationally subnormal schools; and to investigate the criteria professionals use to assess and classify an educationally subnormal (ESN) child.
Subjects: 25 boys and 15 girls, ages 4 to 16, from three child guidance clinics in the city of Birmingham; their parents; and the professional personnel who made the decisions related to the disposition of the children.
Methods: Interviews were carried out with the professional personnel who made the decisions on the disposition of the 40 ESN children. Parents were interviewed to assess the amount and type of their involvement in the decisions made on their children. In all, 104 interviews were executed between March 1976 and January 1977 with head teachers of ordinary and special schools, educational psychologists, medical officers, parents, psychiatrists, social workers, etc. In light of the anxiety of West Indians that too many of their children were being classified as ESN, the investigator was especially interested in the type of decisions made about the 18 children in the study whose parents were immigrants.
Duration: September 1974-January 1979.
Publications: Tomlinson, S. West Indian children and ESN schooling. ***The New Community,*** Summer 1978, 3.

42-QF-1 DEVELOPMENTAL DEFICITS IN INFORMATION PROCESSING

Investigator(s): Laird S. Cermak, Ph.D., Research Director (also Associate Professor, Department of Neurology, School of Medicine, Boston University, Boston, Massachusetts 02118); and Charles Drake, Ed.D., Headmaster, Landmark School for Children with Learning Disabilities, Prides Crossing, Massachusetts 01965. Phone: (617) 927-4440.
Purpose: To identify some of the information processing deficits that are associated with children who have learning disabilities.
Subjects: Learning disabled (LD) children, ages 8 to 12, from the Landmark School; and a matched group of non-LD children (same age, socioeconomic status, and IQ) from the public school systems in Peabody, Tewksbury, Manchester, and Natick, Massachusetts.
Methods: The LD children were divided into three groups based on the amount of scatter between verbal and performance scores on the Wechsler Intelligence Scale for Children: the high verbal/low performance group having a verbal score at least 15 points above the performance score, the high performance/low verbal group having a performance score at least 15 points above the verbal, and an even scatter group whose verbal and performance scores are within 7 points of one another. Four sets of experiments were conducted to explore short-term verbal and nonverbal memory, rehearsal and organizational strategies, the development of hemispheric specialization, and gestural representation. In the first study, a set of rehearsal strategies was employed to examine the effect of organizational abilities on the memorization process in a procedure that allowed the child five trials in which to learn a 20-item list of common nouns presented at a 5-second rate. The second study was designed to analyze concurrently verbal memory and the role of various types of interference, varied under both an auditory and visual presentation. The auditory and visual presentations were paired with four comparable levels of distraction; each level was presented separately over a list of 20 words. In the third study, a paradigm was tried to see whether directing a child to attend to specific features of a word would affect the probability of retrieval of that word. Children were asked 20 questions, after being presented visually with the word in question via slide projector, which directed them to attend to either the physical, phonemic, or semantic properties of the chosen word. A recognition phase of the task followed, in which the child was given a list of 180 words and asked to circle words he had seen during the initial phase of the experiment. In the last study, dichotic listening was employed to determine the extent of hemispheric specialization in children. In each trial, the child heard one list of three numbers in his right ear, and simultaneously, three different numbers in his left ear. Half the subjects were required to report the numbers from their left ear on the initial 10 series of numbers, and half were required to report from the right. Order of ear report was then reversed for the second series of 10 trials.

Findings: The basic abilities of perception and memorization are available to these learning disabled children, but the rate at which they perform such tasks and the strategies they have developed with which to perform them are developmentally deficient. The high verbal/low performance LD group consistently performed better than the other two LD groups and often better than the controls.

Duration: June 1976-May 1979.

Cooperating group(s): National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: (1) Cermak, L.S.; Cermak, S.A.; and Goldberg, J. Rate of verbal memory loss in children with learning disabilities. ***Journal of Learning Disabilities*** (in press). (2) Cermak, S.A. ***et al.*** The effect of concurrent manual activity on the dichotic listening performance of boys with learning disabilities. ***American Journal of Occupational Therapy*** (in press). (3) Cermak, L.S. The development and demise of verbal memory. In A. Caramazza and E. Zurif (Eds.), ***The acquisition and breakdown of language: Parallels and divergencies.*** Baltimore, Maryland: Johns Hopkins Press, 1978.

42-QF-2 DEVELOPMENTAL COMMUNICATION DISTURBANCE: A CASE STUDY

Investigator(s): E. Friedland, B.A., Supervisor, Self-Controlled Interactive Learning Systems (SCILS Program); Doreen R. Steg, Ph.D., Professor; and Cheryl Fox, M.S., Research Specialist, Department of Human Behavior and Development, Nesbitt College, Drexel University, 33d and Market Streets, Philadelphia, Pennsylvania 19104. Phone: (215) 895-2000; and G. D'Amato, M.D., Professor of Child Psychiatry, Jefferson Medical University, Philadelphia, Pennsylvania 19107.

Purpose: To investigate, through an intensive case study, the impact of the SCILS Program on one child, classified as severely developmentally delayed in language.

Subject: One boy, age 3 years 8 months, enrolled in the Drexel Early Childhood Center.

Methods: This case study traces through anecdotal records David's social, emotional, and cognitive growth within the school setting. At first contact (August 1976) David was completely nonverbal and nonresponsive. His increasing skill in verbal interaction with the SCILS staff is described, along with his continued progress on the talking typewriter. David's progress was evaluated on a variety of standardized tests: Peabody Picture Vocabulary Test; Illinois Test of Psycholinguistic Abilities; Wide Range Reading Test; Wide Range Arithmetic Test; Frostig Test of Visual Perception; Stanford-Binet Intelligence Scale for Children, Form L-M; Vineland Social Maturity Test; Beery-Buktenica Developmental Test of Visual Motor Integration; audiometric testing; and on the eight scales of the Behavior Rating Instrument for Autistic and Other Atypical Children.

Findings: The child's normal birth and early developmental history, followed by a fairly rapid loss of communicative abilities with impairment of human relatedness and socialization, lend support to the observation that prenatal causes of permanent brain injury with severe sequelae in later childhood may be associated with normal neurological examination in the neonatal period. The child's progress in the SCILS Program seems to lend support to the success of the program and its use of hardware equipment in promoting the social, emotional, and cognitive growth of children with a developmental communication disturbance.

Duration: 1976-1978.

Cooperating group(s): Drexel University, Drexel Early Childhood Center.

42-QF-3 AN INVESTIGATION: CAN CREATIVE DRAMATICS INSTRUCTION IMPROVE THE RECEPTIVE VOCABULARIES OF EDUCATIONALLY HANDICAPPED CHILDREN?

Investigator(s): Susan D. Keeffe, B.A., Teacher of Educationally Handicapped Children, Dominican College, San Rafael, California. Address correspondence to: 2421 Carlson Boulevard, Richmond, California 94804. Phone: (415) 526-1839.

Purpose: To prove the hypothesis that creative dramatics instruction, a form of communication that offers a concrete approach to learning (a type of learning instruction necessary for educationally handicapped children) will improve positively the receptive vocabularies of primary educationally handicapped children.
Subjects: Two self-contained classes (one control, one experimental) of primary educationally handicapped children, ages 7 to 10, in the Richmond Unified School District. The children represent Black and Caucasian ethnic groups and are from low to middle income families.
Methods: Both groups were administered a pre- and posttest consisting of 20 multiple-choice questions concerning the correct definitions of vocabulary words selected from the Peabody Picture Vocabulary Test. The children were to choose the answer that best defined the word. The same test was used as a pre- and posttest. The experimental group was then given five creative dramatics lessons involving the words on the pre/posttest to be acted out in pantomime situations. The t-test was used to determine the results.
Findings: No statistically significant differences were found. However, the experimental group showed greater gains than did the control group. Lack of degrees of significance were attributed to the small sample size and an imperfect match. A trend in the direction of the hypothesis was indicated.
Duration: September 1978-December 1978.
Cooperating group(s): Richmond Unified School District.
Publications: Information is available from the investigator.

42-QF-4 MIRROR-IMAGE REVERSALS IN CHILDREN'S PRINTING

Investigator(s): Marvin L. Simner, Ph.D., Associate Professor, Department of Psychology, University of Western Ontario, London, Ontario, Canada N6A 5C2. Phone: 679-3502.
Purpose: To obtain detailed information on mirror-image reversals and other errors children made when printing the upper and lower case letters and numbers from 1 to 9, in order to determine why reversals occur.
Subjects: 82 right-handed boys and 67 right-handed girls in kindergarten (N = 43), in grade 1 (N = 54), and in grade 2 (N = 52), from middle and lower income families.
Methods: In the first experiment, the children were tested individually and asked to copy, as well as print from memory, all 52 upper and lower case letters and the numbers 1 to 9 shown on slides presented in random order. The stroke patterns used in forming the letters and numbers were recorded along with errors by an observer standing behind the child. The errors were categorized according to the following criteria: (1) substitution errors resulted when parts were added to and/or deleted from the original, leading to a totally different figure (e.g., d for c); (2) mirror-image reversals occurred when all of the parts in the original were reproduced and rotated about a vertical axis (e.g., d for b); and (3) nonreversal errors took place when all of the parts were reproduced but relocated forming something other than a mirror-image reversal (e.g., d for p).
Findings: Mirror-image reversals occurred less often ($p < .005$) among the 41 reversible letters and numbers (e.g., B, s, 9) than substitution errors. On the other hand, they occurred as often as the nonreversal errors generated by both the reversible as well as the 20 nonreversible (e.g., A, w, 8) letters and numbers. This means that mirror-image reversals do not represent a major form of error among the reversible letters and numbers, and that the reversible characteristic of a letter or number has little bearing on its potential for generating an inappropriate relocation of parts. Furthermore, inspection of the stroke patterns revealed that in the resulting sample of 52 mirror-image reversals formed using two or more discrete strokes, the error itself appeared during the 2d or last stroke in 83%, showing that these reversals are produced at the terminating – not the beginning – stages of construction. The same finding occurred among the nonreversal errors. Also, the frequency of all errors declined from kindergarten through grade 2 ($p < .005$) and appeared more often at each grade under the memory than under the copy task condition ($p < .005$). Finally, the overall number of errors per child produced by the memory task was correlated

positively with teacher's ratings of the child's distractability in both kindergarten and grade 1. These findings suggest, contrary to popular belief, that mirror-image reversals might not result from confusion over spatial orientation. Instead, probably because of the younger child's distractability, reversals, along with the other errors, might stem from momentary lapses in attention to detail, resulting in the production of a poorly formed memory image. Further studies by the investigators lend support to this hypothesis by showing that focusing the child's attention on the general properties of each letter and number reduced both mirror-image reversals as well as other errors.

Duration: January 1978-December 1979.

Cooperating group(s): University of Western Ontario, Social Science Research Grant.

42-QF-5 LEARNING DISABILITIES IN MATHEMATICS: A CURRICULUM DESIGN FOR UPPER GRADES

Investigator(s): John F. Cawley, Ph.D., Professor; and Anne M. Fitzmaurice, Ph.D., Assistant Professor, Department of Education, University of Connecticut, Storrs, Connecticut 06268. Phone: (203) 486-4932.

Purpose: To validate assessment and curriculum in mathematics for children with learning disabilities.

Subjects: Approximately 1,200 children, ages 9 to 17, classified as learning disabled by local school districts.

Methods: This project focuses upon the development of assessment and curriculum experiences in mathematics, including numbers, geometry, and measurement. Attention is given to reading, language, and selected cognitive characteristics as the basis of the program. Each instructional section contains its own assessment program, and extensive diagnostic intervention is planned for inordinately disabled performers. The research component of the program includes an extensive evaluation of 850 children defined as "learning disabled." Comprehensive biodemographic data have been collected and processed through factor analysis. An extensive battery of psychoeducational tests has been administered, and a selective assessment of the progress of movers (those making some progress) and nonmovers (those making no progress) is underway.

Duration: August 1976-September 1979.

Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

42-QF-6 PROJECT YARDSTICK

Investigator(s): William R. Harmer, Ph.D., Director; and Fern C. Williams, Ph.D., Diagnostic Supervisor, Learning Disabilities Center, University of Texas, 252 Education Building, Austin, Texas 78712. Phone: (512) 471-1963.

Purpose: To compare empiric psychoeducational data acquired from children with learning problems with that acquired from children who are making good to excellent academic progress.

Subjects: Referrals: 681 subjects referred to the Learning Disabilities Center, over 50 of whom were 2d graders. Nonreferrals: 60 second graders who were described by their teachers as making good academic progress.

Methods: Referral children come to the Center jointly recommended by teachers and parents; nonreferrals were recommended as such with full parental approval. The following instruments are administered to all subjects: (1) Social Development based on a Kohlberg Moral Judgment question. (2) Haak Sentence Completion for Children with Suspected Learning Disabilities. (3) Wechsler Intelligence Scale for Children-Revised. (4) Bender Visual Motor Gestalt Test. (5) Slingerland Screening Tests for Identifying Children with Specific Language Disability. (6) Zaner-Bloser Evaluation Scale for Handwriting. (7) SRA Achievement, 1-2. (8) Wide Range Achievement Test. (9) Diagnostic Reading Scales (Spache, 1972).

Duration: 1978-1983.

42-QF-7 INDICES OF EMOTIONAL PROBLEMS MANIFESTED BY LEARNING DISABLED CHILDREN

Investigator(s): Ralph Scott, Ph.D., Director; Beatrice Kootz, M.A., School Psychologist; and Edith Madsen, B.A., Teacher, Educational Clinic, University of Northern Iowa, Cedar Falls, Iowa 50613. Phone: (319) 273-2648.

Purpose: To determine to what extent, utilizing signs of emotionality explicated by Ames, learning problems of learning disabled (LD) children might be rooted in psychosocial sources.

Subjects: 15 boys and 8 girls, ages 7 to 15, who had been diagnosed as LD and provided special educational services.

Methods: The Rorschach Test was administered to the children. Scoring followed procedures suggested by Ames in her designation of the following signs of emotional disturbances: excessive card manipulation, static perseveration, f% exceeding f+ and bizarre content. For the purpose of this study, the remaining 12 signs presumably linked to emotional disturbances were not considered.

Findings: Results suggest that a high proportion of LD children manifest signs of emotionality and a more extensive study of this hypothesis is underway. Results also indicate the inappropriateness of educational strategies commonly shaped for LD children, since they largely focus on cognitive objectives.

Duration: September 1977-September 1979.

42-QF-8 THE LEARNING DISABILITY LAB: A CHILD SERVICE DEMONSTRATION CENTER – RESEARCH OF CLINICAL TEACHING MODELS

Investigator(s): Selma G. Sapir, M.A., A.B.D., Director; Rochelle Mayer, Program Analyst; Bernice Wilson, M.A., A.B.D., Research Associate; and Judith Baumrin, Ph.D., Research Assistant, Learning Lab, Graduate Programs, Bankstreet College of Education, 610 West 112th Street, New York, New York 10025. Phone: (212) 663-7200, Ext. 210 or 215.

Purpose: To ascertain which aspects of the clinical teaching models are most effective in enhancing growth in learning disabled children.

Subjects: 28 girls and boys, ages 4 to 12, eleven with learning problems and uneven development – complex and heterogeneous – mixed ethnic backgrounds; 35 female and 3 male student tutors trained in special education, all ages, and all experienced; and 13 classroom teachers of the children from three public schools, all ages, and all levels of experience.

Methods: Year I Data Collection: A pre- and posttest battery was administered to all children including: Language (response to action cards); Sapir Self-Concept Scale; Intelligence (subtests of the Wechsler Intelligence Scale for Children); Skills (kindergartners were asked to write their names, recite the alphabet, and name letters); Perception (Bender Visual Motor Gestalt and Draw-A-Person tests). Elementary children were given parts of the Wechsler Intelligence Scale for Children, the Bender Visual Motor Gestalt, Roswell-Chall, Dictation, Wide Range Achievement Test, and Draw-A-Person. Second year children were administered the Gray Oral Reading Test and the Sapir Self-Concept Scale. In Years II and III, a posttest battery was administered to all children including: Language (action cards), Gray Oral Reading Test, Wide Range Achievement Test, Sapir Self-Concept Scale, Roswell-Chall, Draw-A-Person, Bender Visual Motor Gestalt, Dictation, and sections of the Wechsler Intelligence Scale for Children-R (picture completion, vocabulary, and block design). The graduate students were pre- and posttested by requiring an analysis of a videotape of a teacher-tutor session. The classroom teachers were pre- and posttested with a questionnaire and the videotape analysis. The researchers' goal is to integrate all data, qualitative and quantitative, into comprehensive case studies about the treatment of learning disabled children.

Findings: There was significant improvement at the .01 level on all measures in pre- and posttesting of the experimental children.

Duration: September 1977-September 1980.

Cooperating group(s): Bureau of Education for the Handicapped; Office of Education; Education Division; U.S. Department of Health, Education, and Welfare.

Publications: (1) Sapir, S.G. Educational intervention. In E. Rie and H. Rie (Eds.), ***Handbook on minimal brain dysfunction.*** New York: John Wiley & Sons, 1979. (2) Sapir, S.G. and Wilson, B. ***A professional's guide to working with the learning disabled child.*** New York: Brunner/Mazel, 1978.

SOCIAL SERVICES

42-RA-1 ADMINISTRATION FOR CHILDREN, YOUTH, AND FAMILIES (ACYF) CHILD WELFARE SERVICE DELIVERY SYSTEMS PROJECT

Investigator(s): Jody Garber, Principal Planner; and Leslie Akula, M.S.S.S., Project Coordinator, Massachusetts Department of Public Welfare, 600 Washington Street, Boston, Massachusetts 02111. Phone: (617) 727-7811.

Purpose: To examine child welfare service delivery systems in operation in Boston local welfare offices; to identify system weaknesses and deficiencies; and to develop and implement a set of proposed system changes to improve the delivery of social services at the local office level.

Subjects: Five main Community Service Area offices and seven satellite offices responsible for delivery of child welfare services.

Methods: The project staff conducted 42 interviews (averaging 2 hours) with a sample of local office administrators, supervisors, and workers. Interview schedules, developed for each type of respondent, focused on case flow (how cases enter, move through, and exit from a system) and the six functional areas therein (referral, screening, emergency response, assessment, services planning, and treatment). The methodology developed provides an effective tool for locales to examine and develop improvements to service delivery models.

Findings: Within a defined regional catchment area, there exists no single, unifying service delivery model. Within broad agency guidelines, each local office operates a unique service delivery design. The service delivery system, intended to provide social services to a broad range of clients, has evolved into a system concerned primarily with child welfare service delivery.

Duration: 1978-1979.

Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

Publications: (1) Phase I: An analysis of service delivery in Boston local welfare offices and recommendations for improved system design. (2) Phase II: Document due June 1979.

42-RA-2 MINNESOTA YOUTH POLL

Investigator(s): Diane Hedin, Ph.D. Candidate; and Howard Wolfe, M.A., Research Fellow, Center for Youth Development and Research, University of Minnesota, 48 McNeal Hall, St. Paul, Minnesota 55108. Phone: (612) 376-7624.

Purpose: To develop an ongoing method by which Minnesota youths can state their opinions, experiences, and values on a variety of issues; and to provide teachers, organizations serving youth, planning agencies, local and state government officials, public media, and interested citizens with a clearer picture of how adolescents view their social environment.

Subjects: For each poll, an average of 800 high school students in 10th, 11th, and 12th grades from 20 area high schools.

Methods: The subjects were assigned to one of approximately 120 small groups. A purposive stratified sample by region (urban, suburban, rural) has been employed using a hybrid methodology that incorporates qualitative and quantitative techniques. Data are being collected from small discussion groups using questionnaires and student directed discussion and will be analyzed using qualitative content analysis. The goal is a cultural rather than statistical description of the youths involved.

Duration: 1976-continuing.

Cooperating group(s): University of Minnesota, Agricultural Experiment Station.

Publications: (1) Minnesota youth poll: Youths' views on delinquency – Part I, University of Minnesota, CYDR, July 1978. (2) Minnesota youth poll #4: Youths' views on money and success. University of Minnesota, CYDR, March 1978. (3) Minnesota youth poll: Youths' views on health. University of Minnesota, CYDR, November 1977. (4) Minnesota youth poll: Youths' views on work. University of Minnesota, CYDR, May 1977. (5) Minnesota youth poll: Youths' views on alcohol. University of Minnesota, CYDR, November 1976.

42-RA-3 AN INVESTIGATION OF SELECTED FACTORS ASSOCIATED WITH PARENTAL USE OF DAY CARE AND EARLY EDUCATION SERVICES

Investigator(s): John C. Moore, Jr., Consultant, 2018 Golf Course Drive, Reston, Virginia 22091. Phone: (703) 437-1866.

Purpose: To analyze parental use of child care services within a framework that allows for full interplay among the reasons for using care, the types of care used, and family demographics.

Subjects: 4,609 adults (generally parents) who have principal responsibility for rearing at least one child under age 14. Subjects were interviewed in the 1975 National Child Care Consumer Study (ERIC Reference: ED 131 931-4) and are a national area probability sample of all households in the continental United States having at least one 14-year old at that time.

Methods: Separate analyses will be performed for examining types of care chosen (e.g., centers, nursery schools, home based care, etc.) and the amount of care used (measured in terms of hours per week). The model for analyzing type of care chosen includes 17 factors, the most important of which are expected to be: descriptors of need for care (reason for use, schedule, hours used), the ability of pay (respondent's wage, other household income, and mother's income as a percent of total household income), the number and ages of children, mother's education, and race/ethnicity. The model for analyzing amount of care used includes 19 factors, the most important of which are expected to be: the number of hours away from home for work, school, or job training; age of the youngest child; number of older household members (including spouse) who could serve as within family caregivers (thus reducing the number of hours of care needed); mother's wage (if working) or other household income (if not working). For each of these two models, three analytical approaches will be used in order to examine the data under varying statistical circumstances. First, an hierarchical multiple regression analysis will be conducted to examine the relative importance of the identified factors according to a prespecified order of entry. Second, each factor will be entered into the models as if it were the last to be considered. In this procedure, only the variance specifically attributable to each factor will be assessed. Third, a stepwise multiple regression will be performed for each model to capitalize on the variability inherent in the data. Results of the analysis will be applied to refining an underlying conceptual framework for parental use of day care and early education services and will be interpreted in light of current major policy issues.

Duration: March 1978-February 1979.

42-RA-4 NATIONAL STUDY OF SOCIAL SERVICES TO CHILDREN AND THEIR FAMILIES

Investigator(s): Anita G. Schroeder, Ph.D., Project Director, Westat Research, Inc., 11600 Nebel Street, Rockville, Maryland 20852. Phone: (301) 881-5310.

Purpose: To provide national estimates of (1) children receiving social services from public social service departments, (2) child related service typically requested, and (3) characteristics of the children and of the agencies.

Subjects: A 1977 national sample of about 9,597 children under age 18 receiving social services from a local public social service department. In 1978, about 2,000 families were sampled as they entered the social service system to request services. Follow-up data will be collected on about 2,000 children under age 18 from these families.

Methods: A sample of communities in 101 geographic areas, made up of 263 counties and independent cities in 41 states, was selected to represent the nation's child population. A total of 319 public social service departments, which were units of state and local government, was identified in the sampled areas and asked to complete questionnaires on a sample of child cases and on office procedures. During 1977, the focus was on open child family social service cases. "Social services" were defined as "Activities that support the ability of parents to meet a child's needs through casework service on behalf of children in their own homes to help parents fulfill their parental roles or to help children in their social functioning; protective services for children exposed to neglect or abuse; supplemental care to support parental functioning; and substitute care in lieu of parental functioning through placement of the child in foster care or adoption." During 1978, the study focused on entry of clients into the social service office and the sequence of events during this intake of access period. A prospective methodology will be used; i.e., families will be sampled at the initial contact point with the public social service departments. Individual children from the sampled families will be followed up after approximately 3 months. Data will also be collected on the public social service departments providing entry services. Instruments are being developed to capture data needed for the 1978 survey. During 1977, two instruments were developed: The Child Questionnaire and the Local Office Questionnaire.

Findings: On the basis of survey data, it is estimated that, in the first quarter of 1977, 1,800,000 children were receiving public social services as defined for this project. A great deal of information was collected. Selected analyses of data appear in the Overview Report and the Final Report.

Duration: June 1976-June 1979.

Cooperating group(s): National Center for Child Advocacy; Children's Bureau; Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

Publications: (1) Shyne, A.W. and Schroeder, A.G. ***National study of social services to children and their families overview.*** Washington, D.C.: National Center for Child Advocacy; Children's Bureau; Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare, 1978. (2) Shyne, A.W. and Schroeder, A.G. ***Public social services for children and their families.*** Washington, D.C.: National Center for Child Advocacy; Children's Bureau; Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare, 1977.

42-RB-1 NATIONAL YOUTHWORKER EDUCATION PROJECT

Investigator(s): Ruth Teeter, Ph.D., Project Director; Veryl Cashman, M.S.W., Project Coordinator; and Gisela Konopka, D.S.W., Project Consultant, Center for Youth Development and Research, 48 McNeal Hall, University of Minnesota, St. Paul, Minnesota 55108. Phone: (612) 376-7624.

Purpose: To reinforce and develop networks of communication and action among youthworkers for more responsive services to youth – especially girls.

Methods: Phase I of the project aims to train youthworkers from the nation to develop greater insight and understanding of the wide range of normal adolescent behavior; to increase the sensitivity and responsiveness of significant adults to girls from a wide range of backgrounds; and to increase understanding and cooperation across organizational lines so that coordinated programs can be developed and implemented in local areas. The objective of Phase II is to reinforce the network of communication and action for more responsive services to youth (1) by providing a basic educational experience in the Twin Cities to new participants from specific geographic areas; (2) by conducting follow-up workshops with new and former participants as well as selected agency executives, educators, board members, and others; and (3) by providing an opportunity for national executives and board members of youth serving organizations to contribute to the regional network of collaborative services.

Duration: 1976-1979.

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Cooperating group(s): (1) Lilly Endowment, Inc., Indianapolis, Indiana. (2) Big Sister. (3) Camp Fire Girls. (4) Girls' Clubs. (5) Girl Scouts. (6) 4-H. (7) National Federation of Settlements and Neighborhood Centers. (8) Red Cross. (9) YWCA.
Publications: (1) ***Youthwork bibliography.*** St. Paul: University of Minnesota, Center for Youth Development and Research. (2) Delmont, James (Ed.) ***Youthwork readings.*** St. Paul: University of Minnesota, Center for Youth Development and Research.

42-RB-2 THE DISILLUSIONED VOLUNTEER: SOURCES OF DISSATISFACTION AMONG FORMER BIG BROTHERS VOLUNTEERS

Investigator(s): Irene Margareta Thorelli, A.B., Graduate Student; and Victor H. Appel, Ph.D., Associate Professor, Department of Educational Psychology, University of Texas, Austin, Texas 78712. Phone: (512) 471-4407.
Purpose: To help reduce volunteer attrition among Big Brothers involved in an important one-to-one relationship with fatherless boys (Little Brothers) by providing agencies with the information they need to modify their program policies and procedures.
Subjects: 154 men, ages 18 to 54, who responded to a questionnaire sent to 470 former volunteers at the Big Brothers Austin Agency, and who had served fatherless boys, ages 8 to 16.
Methods: A 22-item questionnaire was developed to elicit sources of dissatisfaction and other reasons for withdrawal among former Big Brothers. Of the 470 questionnaires sent between 1971 and 1976, 200 were returned as undeliverable, and 5% of the remaining 270 were returned. Two follow-ups were sent. Several analyses were performed. In addition to item analyses and a factor analysis to validate the adequacy of the instrument, distribution statistics were conducted on the core items in order to discover the reasons that were most relevant to resignation. The volunteers had been asked to rate on an 8-point scale the role that each item played in their decisions to leave the program. A content analysis was performed on the open-ended information. Over 3/4th of the men provided anecdotal material, some of it quite detailed. A hierarchical profile analysis was conducted, and multiple regression analyses were conducted using the core items as predictors of the two criterion satisfaction items.
Findings: Primary motivations to withdraw were external, nonagency factors; e.g., moving out of the area, or increased work, or school commitments. Other motivations included the lack of a satisfying relationship with the Little Brother, problems with the boy's mother, and lack of sufficient preparation, support, and recognition from the case worker.
Duration: August 1975-December 1978.

42-RB-3 WHO IS THE EFFECTIVE VOLUNTEER: CHARACTERISTICS OF SUCCESSFUL BIG BROTHERS

Investigator(s): Irene Margareta Thorelli, A.B., Graduate Student; and Victor H. Appel, Ph.D., Associate Professor, Department of Educational Psychology, University of Texas, Austin, Texas 78712. Phone: (512) 471-4407.
Purpose: To help fill the research void on voluntarism, especially in the area of mental health; and to discover characteristics that differentiate between successful and unsuccessful Big Brothers, so that agencies may use information to select potentially successful volunteers.
Subjects: 208 male volunteers, who serve fatherless boys, ages 8 to 16. The men were sampled from four groups: 52 short-term (less than 13 months) currently affiliated; 52 long-term currently affiliated; 52 short-term previously affiliated; and 52 long-term previously affiliated Big Brothers of the Austin Agency.
Methods: The Austin agency files were examined in order to provide information pertaining to nine demographic characteristics that were to be related to success as a Big Brother. Length of service in the program was used as the measure of effectiveness. Since fatherless boys need continuity with a father figure, and since length of service has been used extensively in the

literature and is regarded as important to the treatment by the Big Brothers organization, the measure was considered adequate, although not ideal. The nine demographic variables that were related to success were: ethnic origin; age; educational level; occupational, marital, parental (had children of his own), and employment-student status; and length of and area of residence within the community.

Findings: Of the demographic variables examined, four were important in the prediction of success: occupational status (the higher, the better); educational level (the higher, the better); marital status (better married than single); and employment-student status (better full-time employed person than either student or both student and employed).

Duration: February 1975-December 1978.

42-RC-1 TEENAGE PREGNANCY

Investigator(s): Anita Washington, Ph.D.; and Pearl L. Rosser, M.D., Project Co-Directors, Teen Parents Program, Child Development Center, Howard University, 6th and Bryant Streets, N.W., Washington, D.C. 20059. Phone: (202) 636-6973.

Purpose: To focus on the multiple medical, educational, and social problems associated with teenage pregnancy; and to explore the motivational, familial, and attitudinal factors associated with adolescent pregnancy.

Subjects: Teenage mothers, age 18 and under, who deliver at Howard University Hospital; and their infants.

Methods: Mothers and infants from the Howard University Adolescent Prenatal Clinic are assigned on a random basis to either the control group or to a Clinic Visit Group, Home Visit Group, or Combination Clinic and Home Visit Group. Those assigned to one of the treatment groups are followed for 18 months. An adaptation of Solomon's Four-Group Design will be used in program evaluation. Members of all groups will be administered pre- and posttest packages, which consist of (1) Cumulative Infant Health Record, to measure the infant's health; (2) Parent Background/Health Record, to measure the health, fertility rate, and social adjustment of the mother; (3) Bayley Scales of Infant Development, to measure the developmental progress of the infants; and (4) Inventory of Parenting and Health Knowledge, which is administered to the mother. Scores from these instruments will be compared across groups and analyzed statistically for the final report on the project. A research questionnaire designed for this project to establish a data base of information about teenage pregnancy is administered to members of the control and treatment groups after delivery and before entry into the program. Data from this questionnaire will be analyzed independently of the program evaluation data.

Duration: October 1977-September 1980.

Cooperating group(s): Administration for Children, Youth, and Families; Office of Human Development Services; U.S. Department of Health, Education, and Welfare.

42-RE-1 PREVENTIVE SERVICES TO FAMILIES WITH CHILDREN AT RISK OF PLACEMENT

Investigator(s): Gertrude Halper, M.S.W., Project Director; and Joyce Baumholtz, M.S.W.; Sandra Medina, M.S.W.; Jessamine Turner, M.S.W.; and Harry Wildfever, B.A., Caseworkers, Special Services to Children, Bronx Field Office, 192 East 151st Street, New York, New York 10451. Phone: (212) 960-6556; and Mary Ann Jones, M.S.W., Project Evaluator, Child Welfare League of America, 67 Irving Place, New York, New York 10003.

Purpose: To determine if the provision of an intensive program of counseling and other social services under public auspices to families identified as "at risk of needing to place their children," can prevent placement of children into foster care and improve family functioning and thus the quality of life for the children.

Subjects: Initial sample: 90 families referred to Special Services to Children, New York City on either an abuse or neglect complaint or a voluntary request for child welfare services in which at

least one child is judged at risk of entering foster care. The families will be assigned randomly to an experimental group that will receive the demonstration services, or to a control group that will be served in the usual manner. As experimental cases close, there will be additional random assignment to the two groups to keep the number of active experimental cases at 45.

Methods: An experimental design is employed with random assignment of cases to an enriched treatment program (experimental group) and to usual service (control group). Families in both groups will be followed through their course of service for up to 2 years, and outcome evaluations will be obtained from both caseworkers and clients. The major outcome measures will be whether or not children enter foster care, how long they remain in care, and changes in family members' functioning. An adaptation of the Parenting Profile, used with Parents Anonymous members, will be administered to experimental group parents before and after project service. The Polansky Childhood Level of Living Scale was also adopted for this project and will be completed for experimental families before and after project service.

Duration: February 1978-September 1980.

Cooperating group(s): U.S. Department of Health, Education, and Welfare.

42-RF-1 CITY/UNIVERSITY EARLY PERIODIC SCREENING, DIAGNOSIS AND TREATMENT (EPSDT)-DAY CARE PROJECT

Investigator(s): Pearl Axelrod, A.C.S.W., Project Director; Ebba Hierta, M.A., Associate Project Director; and Jeanne Martin, M.A., Project Evaluator, City/University EPSDT-Day Care Project, 220 East Huron, Suite 220, Ann Arbor, Michigan 48104. Phone: (313) 764-8342.

Purpose: To improve identification and follow-up of children with physical, intellectual, or social/emotional difficulties; and to maximize their development through appropriate treatment and programming.

Subjects: 350 EPSDT-Day Care Project children, ages 0 to 5; and 50 day care staff in nine day care centers in Ann Arbor, Michigan.

Methods: This research and demonstration project employs a formal evaluation plan using both formative and summative evaluation methods, including interview and observation instruments, medical screening, and developmental assessment data. Project evaluators will be from the Consortium for Evaluation Research and Training, University of Michigan.

Duration: October 1976-September 1979.

42-RF-2 DAY CARE OF CHILDREN UNDER AGE 2: FAMILY DAY CARE AND NURSERIES

Investigator(s): Pat Petrie, M.A.; and Berry Mayall, M.A., Research Officers, Thomas Coram Research Unit, Institute of Education, University of London, 41 Brunswick Square, London, England WC1N 1AZ. Phone: 278-2424.

Purpose: To make comparisons between the child's experience in both institutional and family settings.

Subjects: Approximately 80 girls and boys, ages 0 to 2, receiving day care either within family day care or in day nurseries.

Methods: A sample of children in both settings was observed, their caregivers and mothers were interviewed, and a further observation of each child was carried out in his/her home.

Duration: September 1976-September 1979.

Cooperating group(s): Social Science Research Council.

Publications: Mayall, B. and Petrie, P. ***Minder, mother, and child.*** London: University of London, Institute of Education, 1977.

42-RF-3 **ETHNOGRAPHY OF AN INNER CITY, LOW INCOME CHILD CARE CENTER**

Investigator(s): Richard Zimmer, Ph.D., Associate Professor, Hutchins School, Sonoma State College, Rohnert Park, California 94928. Phone: (707) 664-2491.
Purpose: To assess the way in which children image transition, parents give instructions about performance, parents and staff mediate outside intervention, parents accept staff intervention (especially related to child abuse and alcoholism), and the impact of external agencies and government on the center.
Subjects: 40 parents and 100 children (toddlers to preschoolers) and about 10 staff members of a child care center.
Methods: The methodology includes participant-observation and observer-participation in the center and includes observation of activities and children. Open-ended interviews will be conducted with adults and with outside agencies.
Duration: Spring 1978-Fall 1980.

42-RF-4 **SUPPORT FOR PARENTING THROUGH COMMUNITY DEVELOPMENT**

Investigator(s): Susan Hodgson, Ph.D., Research Associate, Child in the City Project, University of Toronto, 455 Spadina Avenue, #424, Toronto, Ontario, Canada M5S 2G8. Phone: (416) 978-6895.
Purpose: To evaluate the effectiveness of a community based child parent drop-in center as a preventive support to high risk parents.
Subjects: 40 mothers with preschool children who are new users of the drop-in center; and a representative sample of 200 mothers with preschoolers from the catchment area of the center. (Demographic data indicated that the sample will include a high number of recent immigrants, low income mothers living in subsidized housing, and single mothers.)
Methods: An interview schedule includes a short version of Reid Ware's Locus of Control Scale with items added relating to locus of control in parental role on each of the subscales. It also includes the CES-D Scale, which measures depression in the general population and an as yet unidentified measure of stress. The interview assesses isolation in terms of contacts with family and friends and involvement in the community. In addition, the interview assesses the availability, use, and perceived adequacy of the resources available to a person in general and specifically relating to child care. ("Resources" refers to personal skills, interpersonal support, time, and money.) The interview includes sections relating specifically to the drop-in center. Subjects will be interviewed at home. The interview will be piloted with current users of the center and then the new users and the community sample will be interviewed. After approximately a year, new users and a matched control group selected from the community sample will be interviewed a second time.
Duration: May 1978-December 1980.
Cooperating group(s): New York Interagency Council, Prevention Subcommittee.

42-RH-1 **DEVELOPMENTAL PROGRESS IN ABUSED YOUNG CHILDREN IN SPECIAL GROUP HOMES**

Investigator(s): Irving N. Berlin, M.D., Professor of Psychiatry and Pediatrics, and Head, Section of Child Psychiatry, Division of Mental Health, Sacramento Medical Center, 2315 Stockton Boulevard, Sacramento, California 95817. Phone: (916) 453-2969.
Purpose: To demonstrate that abused young children in special group homes make greater developmental gains than their controls in other foster home settings.
Subjects: Abused children, ages 1 to 6.

Methods: Developmental evaluations of abused young children will be carried out. A portion of the children will be assigned to special group homes. The group home parents and aides will be regularly consulted to help them develop skills in child care consistent with developmental and psychiatric evaluations and demonstrations of developmental delays. Pre- and posttesting will be done with both subjects and controls to specifically measure development in cognitive, social, and interpersonal areas. In addition, regular reevaluations of all children at 6 months and 1 year will be administered, and psychotherapy will be provided for seriously disturbed children in both special homes and control foster homes.
Findings: Preliminary findings marked developmental gains in subjects vs. controls.
Duration: January 1977-continuing.
Cooperating group(s): Sacramento County Funds.

42-RH-2 CHILD ABUSE AND NEGLECT AND PROTECTIVE INTERVENTION IN MERCER COUNTY, NEW JERSEY: A PARENT INTERVIEW AND CASE RECORD STUDY

Investigator(s): Leroy H. Pelton, Ph.D., Program Development Specialist, Bureau of Research, New Jersey Division of Youth and Family Services, 1 South Montgomery Street, Trenton, New Jersey 08625. Phone: (609) 292-8512.
Purpose: To ascertain the characteristics of child abuse and neglect, of the families, and of agency intervention.
Subjects: 60 children from families in which child abuse and/or neglect incidents were known or suspected to have occurred, from a sample of 100 non-Win child welfare cases (each representing one child) from the entire Mercer County caseload of the New Jersey Division of Youth and Family Services under supervision in August 1975.
Methods: The case records of the 60 children were analyzed thoroughly and relatively unstructured parent interviews were conducted in 33 of the cases.
Findings: The families of 81% of the abuse and neglect cases had been on public welfare at some time. The mothers had borne an average of 5.5 children. Two-thirds of the mothers had left school by the end of grade 10. Leaving a child alone or unsupervised is the most prevalent form of neglect, occurring in 50% of neglect and mixed (abuse and neglect) cases. Severe harm was about twice as likely to have been caused by neglect than by abuse. Of the children in the abuse and neglect cases, 68% had experienced placement outside of the home at some time. Placed children had less than a 50% chance of never experiencing more than one placement setting.
Duration: October 1975-completed.
Publications: Information is available from the investigator.

42-RH-3 QUARTERLY STATISTICAL REPORT: ARIZONA STATE CHILD PROTECTIVE SERVICES

Investigator(s): DeEtte Burdue, M.S.W., Supervisor, Services Support Unit, Social Services Bureau, Arizona Department of Economic Security, 1400 West Washington Street, Phoenix, Arizona 85005. Phone: (602) 271-4441.
Purpose: To provide a quarterly statistical summary of child protective services to serve as the basis for a large number of reports to the public and to serve as a foundation for decision making within the Social Services Bureau and other areas of state and local governmental bodies.
Methods: The descriptive statistics utilized in this research summary are drawn from data provided by Child Protective Services workers through the vehicle of the National Clearinghouse on Child Abuse and Neglect data coding form. This is a form in standard utilization across the nation and serves as a method for input of child maltreatment data to the National Clearinghouse in Denver, Colorado.
Duration: October 1970-continuing.
Publications: Information is available from the investigator.

42-RH-4 TREATMENT PROGRAMS FOR CHILDREN WHO ARE VICTIMS OF CHILD ABUSE

Investigator(s): Ann E. Nesbitt, M.S.W., Director; and Joe McGloin, M.S., Researcher, Children's Resource Center, 7475 Dakin Street, Denver, Colorado 80221. Phone: (303) 426-6190.

Purpose: To investigate the effectiveness of six specific treatment programs to help children with behavior problems develop cognitive problem solving skills to better equip them to make creative changes and to ameliorate their maladaptive behavior patterns; and to determine whether or not any of the programs has an effect on reducing the incidence of juvenile delinquency and thus is an effective preventive program.

Subjects: Boys and girls, ages 4 to 13, who were victims of child abuse (physical, emotional, or sexual), neglect, or a potentially abusive situation, referred by the Adams County Department of Social Services.

Methods: The problem behavior profile of the target population included children with poor impulse control, severely aggressive or overly withdrawn personality, inability to accept responsibility, poor peer relationships, negative attention-seeking behavior patterns, inability to cope with frustration in a socially acceptable manner, and poor school performance. In the first year, 94 adults were trained and 184 children were impacted through a variety of treatment modes. Some children were treated directly by parents, teachers, or in special cases, by a staff of therapists, which consisted of an interdisciplinary team of a psychologist, a social worker, a speech pathologist, an education specialist, and an outreach worker. The conceptual basis of the treatment plan is a behavioral approach proposed by George Spivack and Myrna Shure of the Hahnemann Medical Center in Philadelphia. It is called "the Interpersonal Cognitive Problem-Solving Method" and integrates an exploration of interpersonal conflicts in addition to providing skill remediation in the area of cognition and language development. It is based on the observation that to a large extent children's behavioral problems reflect a cognitive deficit; i.e., they often do not possess the skills necessary to solve problems that arise in interactions. The program is composed of six specific treatment modalities designed to meet either a training or a direct service need: parent training groups, child treatment groups, individual child treatment, day care/foster care training program, school training program, and outreach. The pre- and posttest measures include the Moral Development Test; Slosson Intelligence Test (pretest only); Speech and Language Evaluation (pretest only, ages 4 to 7); ICPS Locus of Control (ages 4 to 7); AWARE Locus of Control (ages 8 to 13); Preschool Interpersonal Problem Solving Test (ages 4 and 5); Alternative Solutions Test (ages 6 to 9); and the Means-End Problem Solving Test (ages 10 to 13).

Findings: The initial raw data from pre- and posttest scores obtained from 70 children and 30 adults who have completed the program are being computerized. General observations, however, show that there has been a decrease in aggressive behaviors including fighting, stealing, and lying among the children who have completed the program.

Duration: 1978-1980.

Cooperating group(s): (1) Law Enforcement Assistance Administration. (2) Adams County Department of Social Services.

42-RJ-1 50 CHILDREN REFERRED TO WOKINGHAM CHILD GUIDANCE CLINIC

Investigator(s): Jean M. Lisle, B.Soc.Sc., Psychiatric Social Worker, Wokingham Child Guidance Clinic, 26 Bath Road, Reading, England RG1 6NU. Phone: Reading 56631-2.

Purpose: To provide feedback on the efficiency and effectiveness of a child guidance clinic.

Subjects: 30 boys and 20 girls referred to the Wokingham Child Guidance Clinic.

Methods: The first 50 children referred to a new Child Guidance Clinic are described by age, sex, referring agent, educational status, and family situation. Time between referral and first appointment is examined. (Mode time between referral and first appointment was 20 days.) Children and families are described by categories suggested by the World Health Organization Multi-axial Classification Scheme. The study will be repeated when 100 referrals have been received.

Findings: The unusually high proportion of girls in the series is interesting and unaccountable at this stage. Half the children in the series are living with families different from those in which they were born.

Duration: July 1978-continuing.

Publications: Rutter, M.L.; Shaffer, D.; and Sturge, C. ***A guide to the multi-axial classification scheme for psychiatric disorders in childhood and adolescence.*** London: Institute of Psychiatry, 1976.

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42-SA-1 THE CLEVELAND RESPIRATORY STUDY

Investigator(s): Walter W. Holland, M.D., Director; Charles du V. Florey, M.D., Deputy Director; and R.J.W. Melia, M.A., Assistant Lecturer, Department of Community Medicine, St. Thomas's Hospital Medical School, London, England SE1. Phone: 9289292, Ext. 3150.

Purpose: To investigate whether there is a relationship between lung function in primary school children and the levels of nitrogen dioxide (NO_2) in their homes.

Subjects: 436 boys and 373 girls, ages 6 and 7, who lived and attended school within a defined area of Middlesbrough, Cleveland, and came mainly from the manual social class groups in northern England.

Methods: Height and weight were measured on each child, and five measurements also were taken of lung function using the McDermott Dry Spirometer. This instrument recorded on a casette tape the child's total expiration, and when the recordings were analyzed by computer, several measurements of lung function were obtained (e.g., peak expiratory flow rate). Information was collected in a questionnaire self-administered by the child's mother or guardian related to (1) the child's and other family members' respiratory illnesses, and (2) environmental and socioeconomic characteristics of the home (e.g., kinds of fuel used for cooking and heating, number of smokers in the home, and father's occupation). Additional information about the children's respiratory illnesses was obtained from school absence data. Two networks of NO_2 samplers (designed specifically for measuring NO_2 and highly suitable for use in surveys) were set up for 1 week while the children were measured. Two samplers were placed in the kitchen of the children's homes; and in 200 homes selected randomly, a third sampler was placed in the child's bedroom. Seventy-six more samplers formed an outdoor network in the area. Smoke and sulphur dioxide (SO_2) outdoor pollution was already being measured at two sites in the area.

Findings: Outdoor NO_2 levels ranged from 14 to 24ppb (1 billion = 10^9). This range is very small compared with that indoors, where the levels ranged from 4 to 330ppb. Outdoor smoke and SO_2 levels were also low and similar across the area. Thus, outdoor air pollution need not be considered in the main analysis.

Duration: 1977-1979.

Cooperating group(s): Department of Health and Social Services.

Publications: (1) Melia, R.J.W. ***et al.*** Association between gas cooking and respiratory disease in children. ***British Medical Journal,*** 1977, 2, 149-152. (2) Palmes, E.D. ***et al.*** Personal sampler of nitrogen dioxide. ***American Industrial Hygiene Association Journal,*** 1976, 37, 570-577.

42-SA-2 NATIONAL STUDY OF RESPIRATORY DISEASE AND AIR POLLUTION IN PRIMARY SCHOOL CHILDREN

Investigator(s): Walter W. Holland, M.D., Director; Charles du V. Florey, M.D., Deputy Director; and R.J.W. Melia, M.A., Assistant Lecturer, Department of Community Medicine, St. Thomas's Hospital Medical School, London, England SE1. Phone: 9289292, Ext. 3150.

Purpose: To investigate cross-sectionally the relationship between the prevalence of respiratory illness and levels of smoke and sulphur dioxide (SO_2) in 22 areas of England and 6 areas of Scotland; and to monitor over time any changes in the prevalence in areas with changing levels of smoke and SO_2.

Subjects: Approximately 10,000 children, ages 6 to 11, equally divided by sex, examined annually between 1973 and 1977.

Methods: Children were examined annually in a measurement session and by a questionnaire. At each child's school, height, weight, and peak expiratory flow rate were measured by school nurses who were supervised by trained field workers from St. Thomas's Hospital. The questionnaires were self-administered by the child's mother or guardian and contained questions on the child's respiratory symptoms and diseases, environmental and socioeconomic characteristics of the home (e.g., kinds of fuel used for cooking and heating, number of smokers in the home, and father's occupation). Smoke and SO_2 were measured daily using the standard smoke/SO_2 sampler that was set up at or near the child's school in each area. Information on weather variables (e.g., temperature and rainfall) was obtained from meteorological stations in or near the study areas.
Findings: In 1975, no association was found between the prevalence of respiratory illness and levels of smoke and SO_2. However, an association was found in 1973, possibly because that winter was more severe than 1975. It is possible that the effects of weather and pollution on health interacted. Indoor air pollution might further explain this correlation, because in 1973, an association was also found between the prevalence of respiratory illness and use of gas for cooking in the home.
Duration: 1972-1979.
Cooperating group(s): Department of Health and Social Services.
Publications: (1) Melia, R.J.W. ***et al.*** Association between gas cooking and respiratory diseases in children. ***British Medical Journal,*** 1977, 2, 149-152. (2) Irwig, L. ***et al.*** Recent advances in the assessment of the health effects of environmental pollution. ***Symposium Proceedings, Commission of the European Communities. Vol. 1.*** Luxembourg, 1975. P. 289.

42-SA-3 EARLY PERIODIC SCREENING, DIAGNOSIS AND TREATMENT (EPSDT) DEMONSTRATION PROGRAM IN CHILD HEALTH

Investigator(s): Virginia Hayes Sibbison, Ph.D., Executive Director, Welfare Research Incorporated, 99 Park Avenue, New York, New York 10016. Phone: (212) 867-8630.
Purpose: To improve the delivery of EPSDT services in New York State (where the program is known as the Child Health Assurance Program; and to initiate innovative approaches to outreach; to clinic case monitoring; and to developmental screening, diagnosis, and treatment of children.
Subjects: Children, under age 6, who are eligible for EPSDT.
Methods: Two Child Health Station Clinics in the south Bronx and one control clinic will be used as study clinics. The outreach activities of the EPSDT Program were evaluated by comparing referral rates of a public health nurse and a lay case aide and by comparing the effectiveness of a face-to-face approach vs. the use of mail as a means of outreach. To determine the value of case monitoring, a comparison was made of (1) case monitored children in study clinics with (2) nonmonitored children in study clinics and (3) children in a control clinic. To evaluate a newly devised developmental screening instrument that enables paraprofessionals to select for further evaluation children who appear to have developmental lags, two methods of screening children for developmental disabilities were compared: (1) primary screening by paraprofessionals administering the newly devised test followed by referral to a doctor, and if necessary, an outside evaluator; and (2) primary screening by a doctor with referral to an outside evaluator.
Duration: Continuing.
Cooperating group(s): (1) U.S. Department of Health, Education, and Welfare. (2) New York State Department of Social Services. (3) Medical and Health Research Association of New York City. (4) New York City Department of Social Services. (5) New York City Department of Health.
Publications: Final report, Welfare Research, Incorporated, December 1977.

42-SA-4 EVALUATION OF A DEVELOPMENTAL SCREENING AND DIAGNOSIS TEST BATTERY

Investigator(s): Virginia Hayes Sibbison, Ph.D., Executive Director, Welfare Research Incorporated, 99 Park Avenue, New York, New York 10016. Phone: (212) 867-8630.

Purpose: To develop and validate a short-form screening battery based on the full-scale Psychodiagnostic Laboratory Battery (PL-B) appropriate for children, ages 4 to 9; to demonstrate the usefulness of the screening and diagnostic instrument within a full-scale Early Periodic Screening, Diagnosis and Treatment (EPSDT) Program; to assess the cost and effectiveness of the screening instrument and the full-scale test battery; to demonstrate the usefulness of paraprofessional testing technicians in administering the screening device; and to identify community resources (school facilities, day care centers, social service agencies, etc.) in the Roosevelt Hospital area and to use them to implement intervention strategies suggested by the output from the full-scale battery.

Subjects: 250 children provided a base for derivation of the short-form screening device; and 196 children were administered the short-form screening battery to provide normative data on an urban population.

Methods: The short-form screening test was designed to be inserted into routine pediatric health assessments to allow for the identification and follow-up treatment of children at risk because of developmental problems. After the PL-B and short-form screening test were administered to the children, follow-up testing assessed the accuracy of the screen as an indicator of failure on the full-scale test. Additional program elements included the use of appropriate intervention strategies (counseling, remediation, and other support systems) based on diagnostic results; development of a structure of referral services within and outside Roosevelt Hospital; development of a tracking and monitoring system for referrals; and the derivation and validation of the screen by Bokonon Systems, Washington, D.C.

Duration: Continuing.

Cooperating group(s): (1) Roosevelt Hospital, Pediatric Ambulatory Service and Developmental Assessment and Evaluation Project Staff. (2) New York State Department of Social Services. (3) Bokonon Systems, Washington, D.C.

Publications: (1) Final evaluation report, Welfare Research, Incorporated, January 1978. (2) Final report from the Roosevelt Hospital developmental assessment and evaluation project staff, December 1977.

42-SA-5 MEASURING THE EFFECTIVENESS OF PERINATAL MEDICAL CARE

Investigator(s): Ronald L. Williams, Ph.D., Associate Research Economist, Community and Organization Research Institute, University of California, Santa Barbara, California 93106. Phone: (805) 961-3143 or 961-2548.

Purpose: To devise a statistical method for monitoring the effectiveness of perinatal care on a widespread basis.

Subjects: California birth cohorts for the calendar years 1960 and 1965 through 1976.

Methods: The project staff will compute an index of the effectiveness of perinatal care as delivered in all California hospitals from 1960 to 1976. The index is defined as "the ratio of the observed perinatal deaths to the number of expected deaths." Expected deaths are computed on the basis of each newborn's birthweight, gestational age, sex, race, and plurality as abstracted from 4.4 million linked birth and death records. Information related to the structure and process of perinatal care in California hospitals has been obtained by survey questionnaires. Relationships between the effectiveness index and the structural and process variables will be studied using multiple regression. The impact of the increasing rate of cesarean sections on perinatal outcomes will be examined using simultaneous statistical inference. Hospital cost and revenue information compiled by the California Health Facilities Commission has also been obtained and will be used to study variations in cost effectiveness. As an important by-product of the study, vital record data have been used to study the intrauterine growth and perinatal mortality characteristics of the California population by sex, race, and plurality. Accurate reference standards for fetal growth and perinatal risk, which will be applicable to much of the American newborn population, will be derived.

Findings: It was found that the risk-adjusted mortality ratio was significantly lower in larger delivery services, in urban hospitals, in hospitals performing above average numbers of cesarean sections, in those recording Apgar scores, and in those having higher specialist-to-generalist ratios. Conversely, the ratio was significantly higher in hospitals with larger percentages of Spanish-surnamed mothers and in private proprietary hospitals. The results also indicated that a statistical model could be useful for predictive purposes, since the regression equation explained more than 80% of the variation in observed perinatal mortality rates between hospitals.
Duration: July 1976-December 1979.
Cooperating group(s): (1) Bureau of Community Health Services; Health Services Administration; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) California Department of Health, Maternal and Child Health Branch.
Publications: Williams, R.L. Measuring the effectiveness of perinatal care. ***Medical Care,*** 1979.

42-SA-6 MEDICAL CONSENT AND THE DELIVERY OF HEALTH CARE TO ADOLESCENTS

Investigator(s): Katherine Catton, M.A., L.L.B., Legal Research Coordinator, Child in the City Project, University of Toronto, 455 Spadina Avenue, Suite 424, Toronto, Ontario, Canada M5S 2G8. Phone: (416) 978-6895.
Purpose: To determine what adolescents know about the law of medical consent, what they think the law should be, how it affects their seeking health care, and how and why they came to the teen clinics sampled; and to determine whether physicians understand the law of medical consent regarding adolescents, what they think it should be, and how their perception of what the law is affects their decision to treat adolescents, especially in sensitive health care areas.
Subjects: 60 adolescents seeking health care in one of five areas (VD, birth control, abortion, drug use, psychiatric care) were interviewed in Toronto teen clinics; and a number of Toronto physicians practicing in a variety of settings was also surveyed on their knowledge and practice regarding medical consent of adolescents.
Methods: A 45-minute interview schedule was developed containing both open-ended and forced choice questions, in order to determine adolescent understanding of the law of medical consent. Adolescents, who agreed to participate, were interviewed in the waiting rooms of clinics that mainly or partly served adolescents. Information was collected on present health problems, health history personal background data, SES, past treatment experiences for health problems of interest, perceptions of the law of medical consent, perceptions of physicians' practices, and views on what the law should state regarding the treatment of minors. A self-administered 20- to 30-minute interview schedule was also developed. A nonrandom pilot survey was conducted of physicians who treated adolescents as part of their practice.
Duration: June 1978-March 1979.
Cooperating group(s): (1) University of Toronto Medical School. (2) Hospital for Sick Children Foundation.

42-SA-7 THE RELATIONSHIP OF SELECTED FAMILY HEALTH VARIABLES AND CHILDREN'S HEALTH LOCUS OF CONTROL

Investigator(s): Guy S. Parcel, Ph.D.; and Philip Nader, M.D., Professors, Department of Pediatrics and Preventive Medicine and Community Health, School Health Programs, University of Texas Medical Branch, 1202 Market Street, Galveston, Texas 77550. Phone: (713) 765-1011.
Purpose: To study the relationship of selected family health variables and children's health locus of control.
Subjects: 200 elementary school girls and boys who represent Anglo-American, Black-American, and Mexican-American ethnic groups.

Methods: Previous investigations (Parcel and Meyer) have led to the development of a locus of control scale for children. This study will define family and sociobehavioral characteristics and correlate them with health locus of control scores. Characteristics of using and not using the school health room will also be correlated with locus of control scores. It is postulated that intention to take active steps to promote children's health or solve a health problem will be correlated with a more internal health locus of control.
Duration: Completed.
Cooperating group(s): Corpus Christi Independent School District.

42-SA-8 **ADOLESCENT AND YOUNG ADULT HEALTH PROJECT: A FOLLOW-UP STUDY**

Investigator(s): Ann F. Brunswick, Ph.D., Senior Research Associate, School of Public Health, Columbia University, 60 Haven Avenue, B-4, New York, New York 10032. Phone: (212) 923-2269.
Purpose: To provide data on a continuing longitudinal study of the early adult life and health outcomes of a representative sample of urban black youths.
Subjects: 536 black youths, ages 18 to 23 (277 male and 259 female), from a household representative sample originally studied in the late 1960s.
Methods: In the original study, the subjects' health was studied extensively through personal home interviews with adolescents and through detailed medical examinations. For the follow-up, personal interviews were conducted in the subjects' home or some other place of their choice. Completion of interviews averaged 1½ hours, with a sample completion rate of 89% of original respondents still alive and not identified outside the interviewing area (metropolitan New York City). Interviews included detailed questions concerning current bio-psycho-social health status, attitudes, practices, medical utilization, drug use, and fertility.
Findings: Papers have been prepared describing changes in health status, patterns of drug initiation and cohort analysis of changes in initiation of drug use, and patterns of drug use.
Duration: 1974-1980.
Cooperating group(s): National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Boyle, J.M. and Brunswick, A.F. What happened in Harlem? Analysis of a decline in heroin use among a generation unit of urban black youth. (Chapter to be published in Josephson (Ed.), ***Utilization of research in drug policy making.***) (2) Brunswick, A.F. Black youth and drug use behavior: An epidemiologic and longitudinal perspective on drugs and their users. (Chapter to be published in a book by Beschner-Freedman (Eds.) on youth and drugs.) (3) Brunswick, A.F.; Boyle, J.; and Tarica, C. Who sees the doctor? A study of urban black adolescents. ***Social Science and Medicine*** (in press). (4) Brunswick, A.F. and Collette, P. Psychophysical correlates of elevated blood pressure. ***Journal of Human Stress,*** 1977, 3(4). (5) Brunswick, A.F. Health and drug behavior: A study of urban black adolescents. ***Addictive Diseases,*** 1977, 3(2). (6) Brunswick, A.F. Indicators of health status in adolescence. ***International Journal of Health Services,*** 1976, 6(3).

42-SA-9 **BOYS' CLUBS OF AMERICA NATIONAL HEALTH SERVICES AND EDUCATION PROJECT**

Investigator(s): William Ward, Ph.D., Department of Public Health, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Maryland 21218; and David F. Wynn, Director, National Health Project, Boys' Clubs of America, 771 First Avenue, New York, New York 10017. Phone: (212) 557-8597.
Purpose: To ascertain the incidence of physical health problems revealed through a standardized pediatric physical exam; to determine how successful volunteers serving as Individual Health Associates (IHA) can be in facilitating a follow-up regarding those problems; and to learn whether using a health history can be an alternative to an annual physical examination for members.

Subjects: Boys' Club members, ages 6 to 18, both sexes, affiliated with five pilot Boys' Club sites and two typical club sites, situated throughout the country.
Methods: A standardized physical exam health history and services secured form will provide demographic data and record of problems revealed through the exam process. Protocols for the exam and process have been prepared for use by all examiners and site project coordinators. Demographic data related to IHA are collected from records of involvement with each protégé and individual interviews with protégés, advocates, and parents. The study will attempt to determine what type of health problems can be followed successfully by nonmedically trained volunteers; i.e., individuals who are older members of the Boys' Club, parents of Club members, college students, housewives, senior citizens, interested persons, etc. In particular, the investigators hope to learn more about (1) which kinds of problems various kinds of persons are best able to handle successfully; (2) the length of time it takes to handle these problems; (3) the degree to which advocates become involved in other family matters; i.e., the degree to which relationships between advocate and protégé move beyond the medical problem; and (4) the impact it has on a young person's attitude regarding health.
Duration: February 1977-August 1980.
Cooperating group(s): (1) Robert Wood Johnson Foundation. (2) J.M. Foundation.

42-SA-10 ASCARIASIS CONTROL PROJECT

Investigator(s): Michael C. Latham, M.D., D.T.M.&H., Research Associate; and Lani S. Stephenson, Ph.D., Professor, International Nutrition, Division of Nutritional Sciences, Cornell University, Ithaca, New York 14853. Phone: (607) 256-3041; and David W.T. Crompton, Ph.D., Senior Lecturer, Cambridge University, Cambridge, England; and A.A.J. Jansen, M.D., Nutritionist, Medical Research Centre, Nairobi, Kenya.
Purpose: To control ascaris infection (roundworm) in preschool children in two villages in Kenya over a 3-year period by administration of an antiascaris drug.
Subjects: 1,000 girls and boys, ages 6 months to 18 years. The population consists of all the children residing permanently in two villages in Kenya.
Methods: All preschool and primary school children receive an anthropometric, medical, and parasitological examination in January each year to allow for a longitudinal assessment of their nutritional status. An antiascaris drug will be administered three times a year for 3 years to all children. Preschool children are visited at home by locally trained fieldworkers and receive medication at home. School children receive medication at school.
Findings: During the first year of the project, there has been a slight decrease in the prevalence of ascaris infection.
Duration: January 1977-January 1980.
Cooperating group(s): (1) World Bank, Washington, D.C. (2) Medical Research Centre, Nairobi, Kenya.

42-SB-1 ROBERT WOOD JOHNSON EVALUATION EPISODES OF CARE

Investigator(s): Susan Gilman, M.S., Evaluation Coordinator; and Philip R. Nader, M.D., Professor and Director, School Health Programs; and Guy S. Parcel, Ph.D., Associate Professor; and Gregg F. Wright, M.D., Assistant Professor, Department of Pediatrics and Preventive Medicine and Community Health; and Sandra Dale, R.N., M.S., Assistant Professor, School of Nursing; John G. Bruhn, Ph.D., Associate Dean for Community Affairs; and Mildred Williamson, R.N., Coordinator of G.I.S.D. Health, University of Texas Medical Branch, 1202 Market Street, Galveston, Texas 77550. Phone: (713) 765-1011.
Purpose: To document all health and illness care encounters of a random sample of elementary school children over a 2½-year period in both school and community settings.

Subjects: A random sample of 800 elementary school girls and boys, who represent Anglo-American, Black-American, and Mexican-American ethnic groups.
Methods: Substudies will analyze episodes of care, school visit patterns, and community visit patterns for common pediatric health problems and health maintenance, in order to determine the impact of a comprehensive school health program. Child function outcomes (attendance and achievement) and child health status outcomes (health guarded child) will be related to each other and to family demographic variables influencing the health care delivery system. Specific problems (e.g., otitis media/ear complaints) will be examined in depth as to the relationship between the school and community in providing care for these problems.
Duration: October 1976-September 1979.

42-SD-1 INFORMATION AND COUNSELING IN CASES OF SUDDEN INFANT DEATH IN NEW YORK CITY

Investigator(s): Jean Pakter, M.D., M.P.H., Director, Bureau of Maternity Services and Family Planning; and Dominick J. DiMaio, M.D., Office of the Chief Medical Examiner, New York City Health Department, 125 Worth Street, New York, New York 10028. Address correspondence to: Christine Blenninger, M.A., Project Coordinator, New York City Information and Counseling Program for Sudden Infant Death, 520 - 1st Avenue, Room 506, New York, New York 10016. Phone: (212) 686-8854.
Purpose: To provide counseling services to families who have lost an infant to Sudden Infant Death Syndrome (SIDS); to offer a broad based community education program to facilitate an understanding of SIDS by agencies and persons in direct contact with parents; and to improve knowledge of SIDS through analysis and review of family and victim medical and social histories, and through more intensive pathological analysis.
Subjects: Service Project Caseload = 373 cases from August 1976 to June 1978.
Methods: The project staff collect the health and social service data in each case of SIDS in an attempt to identify common factors in the backgrounds of those families, in order to discover infants most at risk of dying of SIDS. The social services of the project include widespread education in the community about SIDS and direct counseling and support of the victim's family. The project staff assist families with planning for burial arrangements, aid family members to cope with the baby's death, and provide follow-up home visits to each family by a qualified public health nurse. The project is also being utilized as a community resource center by many agencies and professionals in New York City, and in this capacity, provides inservice educational training on SIDS and grief counseling.
Duration: July 1976-June 1979.
Cooperating group(s): Maternal and Child Health and Crippled Children's Services; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-SD-2 SUDDEN INFANT DEATH SYNDROME COLLABORATIVE STUDY

Investigator(s): Jean Pakter, M.D., M.P.H., Director; and Pat Hansen, Project Coordinator, Bureau of Maternity Services and Family Planning; and Michael Baden, M.D., Office of the Chief Medical Examiner, New York City Department of Health, 125 Worth Street, New York, New York 10028. Phone: (212) 566-7076; and Ehud Krongrad, M.D., Director, Heart Station Babies Hospital, Medical Center, Columbia University, New York, New York 10032.
Purpose: To identify and to evaluate risk factors for sudden infant death syndrome (SIDS) using a case control study.
Subjects: Infants, ages 2 weeks to 23 months, whose death at autopsy is listed as SIDS; and living infants selected randomly and matched to the SIDS victims.

Methods: For approximately 1 year, staff at six sites across the country will interview families whose infants have died of SIDS as well as control families selected randomly. Infants will be matched on age, sex, race, and birthweight. In addition to the interview, which will be carried out by a public health nurse, medical records and demographic information on the families also will be obtained and sent to the Coordinating Center in Seattle, Washington.
Duration: Continuing.
Cooperating group(s): National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-SD-3 EFFECTS OF INDUCED ABORTION ON SUBSEQUENT PREGNANCY OUTCOME

Investigator(s): Warren E. Hawes, M.D., M.P.H., Chief; Edwin W. Jackson, M.D., M.P.H., Consultant; and Carol Madore, Research Assistant, Maternal and Infant Health Section, California Department of Health Services, 2151 Berkeley Way, Annex 4, Room 500, Berkeley, California 94704. Phone: (415) 843-7900, Ext. 367.
Purpose: To determine whether induced abortion, as now practiced, increases the risk of unfavorable outcome in later pregnancy.
Subjects: 2,080 women who have a history of induced abortion chosen from a sample of approximately 15,000 deliveries to nulliparous and primiparous women; and a control sample of women without abortion double matched (in most cases) by age, race, parity, and hospital. The population is mixed in race and socioeconomic level.
Methods: Data collectors in nine hospitals throughout California abstracted hospital records and interviewed (75%) nulliparous and primiparous women spontaneously delivering products of conception over 13 months. Single births only were eligible. The data will be analyzed to determine (1) if prematurity, spontaneous abortion, fetal and neonatal death rates, and ectopic pregnancy are higher in women with a history of elective abortion; (2) if the method and gestational time is a determining factor; (3) what interaction there is between a history of abortion and other variables known to influence pregnancy outcome; and (4) if other obstetrical complications are associated with a history of induced abortion.
Findings: Simple marginal counts seem to indicate that differences in outcome are not as great as the demographic differences between the subjects and controls (e.g., legitimacy, welfare, smoking).
Duration: October 1976-December 1978.
Cooperating group(s): Bureau of Community Health Services; Health Services Administration; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-SD-4 EVALUATION OF PRENATAL CARE AND PREGNANCY OUTCOME

Investigator(s): George K. Tokuhata, Ph.D., Dr.P.H., Director; and Martha W. Smith, M.S., Behavioral Research Associate, Bureau of Health Research; and Virginia G. Colflesh, M.S., Director, Division of Health Services Research; and Edward Digon, M.P.H., Director, Division of Epidemiological Research, Pennsylvania Department of Health, P.O. Box 90, Room 725, Harrisburg, Pennsylvania 17120. Phone: (717) 787-5264.
Purpose: To identify overall distribution patterns of prenatal care within a total cross-sectional population; to determine how certain variables relate to the practice of prenatal care; to evaluate the influence of prenatal care upon selected measures of pregnancy outcome; and to perform analyses of the need-demand-supply of prenatal care within a cross-sectional population.
Subjects: All resident pregnancies reported during a 4-year period in Dauphin County and surrounding areas in Pennsylvania. This includes the Greater Harrisburg Metropolitan Area (31% of the Harrisburg residents are Negroes) as well as smaller communities and rural areas. Approximately 20% of the total births are illegitimate.

Methods: This retrospective cohort study uses data on 12,000 pregnancies obtained by interview, abstraction from hospital records, and review of birth and death certificates. Data on participating facilities are collected by visits, and physicians' characteristics are compiled from medical directories and other sources. The influence of various factors will be taken into account to evaluate pregnancy outcome as implicated with prenatal care and other factors.
Duration: July 1974-June 1979.
Cooperating group(s): Maternal and Child Health Service; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.
Publications: (1) Detailed progress and interim reports (MCR-420319-02) are filed with the Maternal and Child Health Services; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare. (2) Data and results are available from: Bureau of Health Research, Pennsylvania Department of Health.

42-SD-5 EFFECTS OF PRENATAL CARE ON ADOLESCENT CHILDBEARING

Investigator(s): Carol J. Hogue, Ph.D., Assistant Professor, Biometry, University of Arkansas for Medical Sciences, 505 Baptist Medical Arts Building, Little Rock, Arkansas 72202. Phone: (501) 661-6140.
Purpose: To develop specifications for a comprehensive model of the impact of health services on the short-term effects of adolescent childbearing; to estimate selected short-term effects of adolescent childbearing; to analyze the limitations of the data used; and to evaluate the components of the impact model.
Subjects: Two sets of data will be used: one data set includes county vital registration data (fetal deaths and live births) linked to marriage registration data and to health clinic prenatal and immunization records; the other data set consists of clinical records from a local community health center. The Appalachian Maternal and Child Health (AMCHE) Study compiled data for all live births and registered fetal deaths occurring within North Carolina to residents in four Appalachian counties between 1968 and 1973. Most residents were white and of a relatively low socioeconomic status. Of the 5,954 live births, 1,322 (22%) were to teen-age mothers. The Lincoln Community Health Center, Durham, North Carolina yielded 354 teen-age pregnancies, in which over one-fourth of these involved girls age 15 or younger. The population was predominantly black and of low socioeconomic status.
Methods: A number of hypotheses will be tested related to consequences of adolescent childbearing for the infant (e.g., fetal death, infant mortality, low birthweight, poor postnatal care) and also for the mother within a short period after the pregnancy (subsequent pregnancy intervals, educational continuance, marital status). Most of the hypotheses will be tested, using linear categorical data analysis, by comparing the frequency of the dependent variable of age-at-first-birth cohorts and controlling multivariately for a number of background and program variables. Hypotheses will be tested on one or both data sets separately. Information sources for the AMCHE data set included, in addition to birth certificates, (1) the prenatal record (if the mother received care at a health department clinic), (2) the date of marriage from the marriage registry (if the mother was under age 20 at delivery of her first child and the child was legitimate), (3) the child's first year immunization record and date of first check-up at the health department, and (4) linked infant death records. All sources were combined into a woman-specific record that detailed her obstetric events from 1968 through 1973. The significance of the proposed research lies not only in providing answers to the specific hypotheses but also in serving as a model for data record linkage techniques that may be applied to other, broader settings.
Findings: For certain outcomes (i.e., low birthweight and early well-child visits), maternal age of 16 or less was associated with a higher risk than that observed for older teenagers or for women in their 20s. This may represent incomplete physical and psychological maturation. In no comparison was a significant difference found between older teen-agers and women in their 20s, when other risk factors were considered. The important risk factors were county of residence and low edu-

cational attainment prior to the pregnancy, especially low educational attainment. It is perhaps this variable more than any other that could explain the so-called higher obstetrics risks for older teen-agers.

Duration: January 1978-December 1979.

Cooperating group(s): National Institute of Child Health and Human Development; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

Publications: A paper presented to the 106th Annual Meeting of the American Public Health Association, Los Angeles, California, October 1978: Hogue, C.J.R. Are teenage pregnancies really at high risk?

42-SF-1 PRIMARY CARE: PATTERNS AND QUALITY

Investigator(s): Rosemary A. Bonanno, A.B., Project Director, Primary Care Study; Janice C. Levy, M.D., M.P.H., Associate in Medicine; and Charlotte G. Schwartz, Ph.D., Sociologist, Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Massachusetts 02118. Phone: (617) 734-6000, Ext. 2995.

Purpose: To determine predominant patterns of pediatric care among low income, inner city children; to determine factors that influence parents' decisions to seek care in one or another of these patterns; and to determine the implications of pattern of use for quality of care.

Subjects: Children, age 12 or younger, presented for a medical visit at three inner city neighborhood health centers, the affiliated hospital emergency room, and the hospital primary care clinic.

Methods: On-site interviews (N = 750) were conducted by four interviewers to determine patterns, factors that influence the choice of health care sites, and insight into care seeking behavior. Interviewers were chosen because of their sensitivity to the people interviewed and the issues at hand, and the interviews were conducted over 12 months. A medical record review was carried out at the interview site on these 750 interviewees to determine the quality of their care using the ***tracer method.*** In cases where the child had used one of the study community health centers and the affiliated hospital, record reviews were done in both places. Data were collected for visits at the primary care settings, the hospital emergency room, and, when appropriate, at the hospital subspecialty clinics. A caseload survey, derived from 1 year of computerized encounters at the five study sites, was employed to expand the data base. Computerized tapes were obtained from the three neighborhood health center staffs who had used the same computer firm. Another tape was obtained from the affiliated hospital, which contained data from the hospital emergency room, its primary care clinic, its subspecialty clinics, and inpatient services.

Findings: Important gaps between the intended use of facilities and users' perceptions of these facilities were evident, indicating that many of the children were not being seen for preventive services, and a sizeable proportion of their parents were using medical care facilities in ways health planners neither intended nor deemed effective. Five patterns emerged from the study based on three dimensions: site used, role of site, and nature of problems brought to the site. In 46.5% of the cases, the pattern of health care would not be considered appropriate by health care professionals. Eleven major groups of salient factors, which influenced the use of the sites, were determined.

Duration: January 1976-June 1979.

Cooperating group(s): Maternal and Child Health Services; National Institutes of Health; Public Health Service; U.S. Department of Health, Education, and Welfare.

42-SF-2 NATIONAL ASSOCIATION FOR THE WELFARE OF CHILDREN IN HOSPITAL RESEARCH PROJECT

Investigator(s): Jocelyn Rodin, SRNONC, Research Officer; Christine Andrews, B.Ed., Educational Advisor; and Valerie M. Bader, B.A., Research Designer, National Association for the Wel-

fare of Children in Hospital Research Project, School of Graphic Design, Kingston Polytechnic, Knights Park Centre, Kingston-upon-Thames, Surrey, England KT1 2QJ, Phone: (01) 549-6151, Ext. 272.

Purpose: To produce highly visual educational materials that will help prepare a young child for the hospital; and to determine if the resulting materials effectively widen a child's understanding of the hospital and reduce anxiety and emotional distress.

Subjects: Hospitalized children.

Methods: The materials developed will be presented in a far more interesting and lively format than existing examples and will contain a much greater degree of accurate information about hospitals and medical procedures. The materials will be suitable for use by teachers in nursery and primary schools, by parents at home, and by doctors and nurses in hospital wards and departments. The materials will be used as an educational project to widen children's understanding of the hospital or to explain an impending medical procedure (e.g., an x-ray or a blood test). Following treatment, which the child has found confusing or disturbing, the hospital playworker will use the materials to help him/her understand what has happened and why it was necessary. The education material that is produced will be tested (1) to determine which forms of presentation are best for young children in terms of visual appeal, accurate portrayal of information, and suitability in terms of manipulative skills; (2) to discover its potential use by teachers to widen a child's knowledge of the hospital and to extend his language and understanding; and (3) to find out if hospitalized children, who are prepared with the material before undergoing a specific medical procedure, are more confident and show less anxiety.

Duration: September 1977-continuing.

Cooperating group(s): King Edward's Hospital Fund for London and Kingston Polytechnic.

42-SF-3 THE USE OF PUBLIC HEALTH SERVICES IN A COMMUNITY

Investigator(s): Anna-Rose Spina, Ph.D., Project Coordinator, Child in the City Project, University of Toronto, 455 Spadina Avenue, Suite 424, Toronto, Ontario, Canada M5S 2G8. Phone: (416) 978-6895.

Purpose: To study the use of public health services in a community: the kinds of services used, who used them, and how they gained access to the services.

Subjects: Data were generated from a random sample of case records for a 1-year period of those who used public health services in a local community.

Methods: This study is one part of a larger study of access to and delivery of different kinds of health and social services. The study is an analysis of the pathways to public health services and a sociodemographic analysis of the community and of those adults/families/children who use the public health services.

Duration: July 1978-April 1979.

Cooperating group(s): Young Canada Works, Employment and Immigration Canada.

42-SF-4 ADOLESCENT ACCESS TO HOSPITAL TEEN CLINICS

Investigator(s): Anna-Rose Spina, Ph.D., Project Coordinator; and Saul V. Levine, M.D., Associate Director, Child in the City Project; and John Gandy, Ph.D.; and Camille Lambert, Jr., Ph.D., Professors; and Donald Fuchs, M.S.W., Ph.D. Candidate, Faculty of Social Work, University of Toronto, 455 Spadina Avenue, Suite 424, Toronto, Ontario, Canada M5S 2G8. Phone: (416) 978-6895.

Purpose: To analyze the personal and professional sources of information and assistance used by adolescents to reach a hospital clinic.

Subjects: A random sample of case records of the adolescent patients who used the hospital teen clinic from November 1977 through April 1978.

Methods: This study is part of a larger study of access to and delivery of different kinds of health and social services. The study is an analysis of the pathways adolescents use to reach the hospital teen clinic and a sociodemographic analysis of those who use the clinic.
Duration: August 1978-June 1979.
Cooperating group(s): Connaught Fund.

42-SH-1 RADIOLOGICAL BONE DENSITY CHANGES IN LEAD POISONING

Investigator(s): Charles Colbert, Ph.D., Director, Radiological Research Laboratory, Greene Memorial Hospital, Xenia, Ohio 45385.
Purpose: To collaborate in epidemiological studies of children at risk for lead poisoning; and to establish whether lead in bones can be detected from computerized scans of hand X-rays.
Subjects: 600 Caucasian and Black girls and boys, ages 3 to 8, in Newark, New Jersey and Columbus, Ohio.
Methods: Subjects were selected randomly (except for a subgroup of acutely ill patients with known poisoning). Films were scanned optically by a special computer controlled microdensitometer, and bone mineral density of the fingers was correlated with blood lead levels, hematocrit, free erythrocyte protoporphyrin, etc. by multivariate analysis of variance.
Findings: Preliminary findings seem to show that even in large body burdens of lead there is not enough lead stored in the bones to cause a detectable increase in bone density.
Duration: 1973-1979.
Cooperating group(s): (1) National Institute of Environmental Health Sciences; National Institutes of Health; Public Health Service, U.S. Department of Health, Education, and Welfare. (2) Martland Hospital, Newark, New Jersey. (3) Columbus Children's Hospital, Ohio. (4) Lead Poisoning Survey, Columbus, Ohio.
Publications: A paper presented at the Radiological Society of North America Meeting, Chicago, November 1976: Doboy, J.; Colbert, C.; and Bachtell, R. Radiological bone density changes in lead poisoning: A progress report.

42-SH-2 PROJECT BURN PREVENTION

Investigator(s): John D. Crawford, M.D., Principal Investigator; Elizabeth McLoughlin, M.A., Project Director; Annette MacKay, Burn Data Coordinator; and Judy Halpern, Community Coordinator, Shriners Burns Institute, 51 Blossom Street, Boston, Massachusetts 02114; and Cheryl Healer, M.S., Project Director; Ann Lee, Education Evaluation Coordinator; Anne Glickman, Media Liaison; and Millie Tessler and Nancy Olson, Materials Developers, Education Development Center, 55 Chapel Street, Newton, Massachusetts 02160. Phone: (617) 969-7100.
Purpose: To determine whether an educational campaign can impact what people know about preventing and treating burns and the incidence and severity of burn injuries.
Subjects: Educational Evaluation: 400 children at each grade level (K, 1, 2, 3, 10, 11, and 12) in each of two experimental sites and one comparison site; and approximately 2,500 adults (equally distributed by sex) divided among three experimental and two comparison sites. Burn Injury Evaluation: All burn victims treated at any of 20 hospitals most frequented by residents of four experimental and two comparison cities during the 4-year period before the educational campaign and the 18-month period following the onset of the campaign.
Methods: Phase I (1975-76) of Project Burn Prevention: Two kinds of needs assessment were conducted: the collection of burn incidence data, and an educational diagnosis to pinpoint knowledge deficiencies across various age groups. The data collected guided the development of audiovisual and print materials for the educational campaigns. Phase II (1976-77): Materials were developed for three kinds of intervention strategies: a mass media public information campaign, a community outreach program, and school curricula. Epidemiologic data were collected on all burn

victims treated at hospitals in the experimental cities (Boston, Lynn, and Quincy) and comparison cities (Springfield, Holyoke, and South Hadley) during the 4 years prior to the implementation of the project. These data are used to establish a baseline burn injury rate for each site. Phase III (1977-78): All three programs were implemented. For each one, the educational evaluation involves administering criterion-referenced tests according to a modified Solomon four-group design. Test subjects within each site (but not the sites) were chosen randomly. Phase IV (1978-79): The major activity is to analyze the educational and epidemiological data in order to evaluate the project's effectiveness. Within each site, burn incidence rates during and for 12 months after the implementation period will be compared to rates projected from the burn injury baselines.

Findings: Scalds occur most frequently. Flame burns are 2d and tend to be most severe. Very young children (ages 0 to 2) are at greatest risk, followed by adolescents and young adults (ages 20 to 44). Males are at a greater risk than females in all groups except persons over age 60. On criterion-referenced tests about burn prevention, most people tend to answer less than 50% correctly.

Duration: July 1975-November 1979.

Cooperating group(s): U.S. Consumer Product Safety Commission.

Publications: (1) McLoughlin, E.; Healer, C.; and Crawford, J.D. Burn education intervention: A controlled study. ***Burns: Journal of the International Society for Burn Injuries*** (in press). (2) McLoughlin, E. and Healer, C. Patterns of burn accidents. ***Emergency Product News,*** 1977, 8(28). (3) Healer, C.; McLoughlin, E.; and Guilfoy, V. Burn injuries: Causes, consequences, knowledge and behavior. U.S. Department of Commerce Publication No. PB 268722, 1976. (NTIS, Springfield, Virginia 22151).

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OTHER ABSTRACTING JOURNALS AND SERVICES

Abstracts of Hospital Management Studies (quarterly), the Cooperative Information Center of Hospital Management Studies, University of Michigan, 220 East Huron Street, 419 City Center Building, Ann Arbor, Michigan 48108.

Abstracts on Criminology and Penology, Criminological Foundation, Rapenburg 38, Leiden, The Netherlands.

Chicago Psychoanalytic Literature Index (quarterly). Institute for Psychoanalysis, 180 North Michigan Avenue, Chicago, Illinois 60601. Annual subscription: $50 postpaid ($55 outside U.S.).

Communication Disorders, Information Center for Hearing, Speech, and Disorders of Human Communication, The Johns Hopkins Medical Institutions, 310 Harriet Lane Home, Baltimore, Maryland. 21205.

Current Awareness Service (monthly), the Institute for Research into Mental and Multiple Handicap, 16 Fitztroy Square, London WIP 5HQ, England. The service provides a listing of newly published journal articles; new books are listed every 2 months; and there is a monthly guide to forthcoming professional meetings in the field. Request a Publications List from Denise McKnight, Information Officer.

Current Index to Journals in Education (monthly), Macmillan Information, A Division of Macmillan Publishing Corporation, Inc., 216R Brown Street, Riverside, New Jersey 08075.

Dissertation Abstracts, University Microfilms, Ann Arbor, Michigan 48103. (Gives synopses of U.S. doctoral dissertations with an annual index.)

dsh Abstracts, Deafness, Speech and Hearing Publications, Gallaudet College, Washington, D.C. 20002.

Educational Resources Information Center (ERIC) supplies current research and research-related information to teachers, administrators, researchers, commercial organizations, and others. ERIC includes 16 clearinghouses or documentation centers, located at universities and other institutions throughout the country. Each clearinghouse concentrates on a different subject matter area in the field of education. For complete information, write: Director of ERIC, National Institute of Education, Office of Dissemination and Resources, Washington, D.C. 20208.

ERIC Clearinghouse on Early Childhood Education, Publications Office, 805 West Pennsylvania Avenue, Urbana, Illinois 61801, publishes a quarterly newsletter; subscription, $2.00. Also available free, a List of Publications relating to children, ages 0 through 12.

Exceptional Child Education Abstracts (quarterly), The Council for Exceptional Children, Box 6034, Mid City Station, Washington, D.C. 20005.

Excerpta Medica Foundation, New York Academy of Medicine Building, 2 East 103rd Street, New York 10029, and 119-123 Herengracht, Amsterdam C, The Netherlands, has established an abstracting service on pediatrics, available on a yearly subscription basis. In addition to abstracts, the Foundation provides to subscribers, at cost, photocopies and translations of complete articles.

Health Economic Studies Information Exchange, Division of Medical Care Administration, Public Health Service, Washington, D.C. 20402.

Index Medicus, National Institutes of Health. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Language and Language Behavior Abstracts (quarterly), Center for Research on Language and Language Behavior, University of Michigan, Ann Arbor, Michigan 48104. Order from Subscription Manager, LLBA, Meredith Publishing Co., 440 Park Avenue South, New York, New York 10016.

National Bureau of Child Welfare Library (Voor Kinderbescherming), Stadhouderslaan 150, The Hague, The Netherlands, publishes abstracts of articles in the field of child welfare each month. The articles are in Dutch, but those familiar with the Universal Decimal System would be able to understand something about the articles. The subscription rate for documentation on cards is 30 guilders (approximately $8.40).

Nutrition Abstracts and Reviews, Commonwealth Bureau of Animal Nutrition, Bucksburn, Aberdeen AB2 9SB, Scotland.

Poverty and Human Resources Abstracts (bimonthly), Institute of Labor and Industrial Relations, University of Michigan-Wayne State University, P.O. Box 1567, Ann Arbor, Michigan 48106.

Psychological Abstracts, American Psychological Association, 1333 – 16th Street, N.W., Washington, D.C. 20036.

Rehabilitation Literature, National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612.

Research in Education (monthly), Computer Microfilm International Corporation, P. O. Box 190, Arlington, Virginia 22210.

Science Information Exchange, Smithsonian Institution, 209 Madison National Bank Building, 1730 M Street, N.W., Washington, D.C. 20036 provides to qualified investigators, for a fee, selected abstracts of current research supported by foundation or government grants. The exchange covers such fields as medicine, nursing, public health, nutrition, psychology, education, anthropology, mental health, and intercultural relations.

Sociological Abstracts, 15 East 31st Street, New York, New York 10016.

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